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The relationship between risk, criminogenic need, and recidivism
for Indigenous justice-involved youth:
A comparative, mixed-methods investigation

A report for the Aboriginal Justice Directorate
Department of Justice Canada

EXECUTIVE SUMMARY

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Introduction

The overrepresentation of Indigenous youth in the justice system is a longstanding and ongoing issue (Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Leonard, Olah, & Dilworth, 1999; Milligan, 2008). In 2011, Indigenous youth represented 5.9% of Canada's youth population (Statistics Canada, 2013), and yet constituted 26% of youth admitted to the correctional system (Munch, 2012). While it is important to address the broader socio-political factors affecting Indigenous youth before they come in contact with the law, it is equally important to provide support and services to those who are already involved with the justice system, with the goal of ultimately helping them escape the cycle of reoffending. Therefore, the goal of the present study was to explore how assessment and treatment of risk factors for recidivism are related to outcomes for Indigenous justice-involved youth.

The Risk-Need-Responsivity (RNR) model is an evidence-based conceptualization of criminal conduct that evaluates an individual's risk to reoffend. RNR-based assessments inform sentencing decisions and the development and implementation of case management plans in custody and the community; in this way, the RNR model guides rehabilitation efforts at multiple points in an offender's trajectory through the justice system.

The RNR framework posits that recidivism can be predicted and reduced by examining factors within offenders and factors within the correctional system, as well as how the two interact (Andrews, Bonta, & Hoge, 1990). The *risk principle* states that as risk to reoffend increases, so should intensity of intervention (Andrews et al., 1990). The *need principle* asserts that interventions should target individual-level characteristics that are directly related to offending (Andrews & Bonta, 2010). Eight criminogenic needs have been established as strong predictors of recidivism: history of criminal conduct, family circumstances and parenting, education and/or employment issues, peer relations, substance abuse, leisure and recreational activities, personality and behaviour, and antisocial attitudes and orientation (Andrews & Bonta, 2010). Finally, the *responsivity principle* holds that, in order to optimize effectiveness of services directed at criminogenic needs, interventions should be evidence-based (general responsivity principle) and tailored to individual traits and circumstances (specific responsivity principle; Bonta, 1995).

Although the RNR model is highly influential within Canadian corrections (Hannah-Moffat & Maurutto, 2003; Ogloff & Davis, 2004), research on its applicability to Indigenous

youth is scarce. It is not yet clear whether Indigenous justice-involved youth have a distinct risk profile or whether risk assessment measures have equal predictive validity for Indigenous and non-Indigenous youth. Moreover, while it had been demonstrated that receiving intervention targeted at criminogenic needs predicts and reduces recidivism (Peterson-Badali, Skilling, & Haqanee, 2015; Vieira, Peterson-Badali, & Skilling, 2009), there is no research to date on whether this relationship holds for Indigenous youth.

Objective

The overall objective of the present study was to examine outcomes for Indigenous justice-involved youth compared to their non-Indigenous peers by exploring how risk levels, criminogenic needs, and addressing identified needs, through probation case management and referral to services, related to recidivism in these groups. The authors adopted a mixed-methods approach, reasoning that a qualitative component would complement and support interpretation of the quantitative findings. Moreover, frontline workers possess expert knowledge and insight that is not captured by quantitative instruments. Within the overall objective, the study addressed three core research questions:

- 1) Do Indigenous and non-Indigenous youth differ significantly in terms of: level of risk, number or type of criminogenic needs, extent to which identified needs are addressed through service ('service match'), and rates of recidivism?
- 2) To what extent do the variables of risk and service match predict recidivism for Indigenous and non-Indigenous youth and do they differentially predict recidivism for these two groups?
- 3) Are these quantitative measures consistent with the qualitative experiences of justice system service providers?

In answering these questions, this paper contributes to our understanding of whether and how the prevailing framework for assessing and managing risk applies in theory and works in practice for Indigenous youth.

Method

Quantitative Analysis

Sample

Data were obtained from the records of 70 youth (37 Indigenous, 33 non-Indigenous) who had been charged with a criminal offense and underwent a court-ordered assessment for sentencing purposes at a children's mental health center in northern Ontario, Canada. Table 1 presents demographic and offence information broken down by Indigenous/non-Indigenous status.

Measures

Risk. Through the court-ordered assessment, youths' risk to reoffend was assessed with the Youth Level of Service Inventory/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011), a detailed 42-item survey of youth risk and criminogenic needs organized according to the eight domains identified in the RNR framework. Domain and overall risk for recidivism scores are calculated and assigned a corresponding risk category (low, moderate, high, and very high).

Criminogenic need. Each court-ordered assessment concluded with a summary and list of recommendations that highlighted the youth's needs and targets for intervention. For each of the seven dynamic criminogenic need domains, a need was coded as 'present' if it was mentioned anywhere in the conclusion section of the report or 'absent' if it was not mentioned anywhere in the summary and recommendations section. Criminogenic need was explored separately from YLS/CMI scores in this way because research has shown that offenders with similar risk scores can have very different need profiles (Taxman & Caudy, 2015).

Match to services. For each youth, each criminogenic need domain in which a need was identified (i.e., coded as 'present'), was coded as 'matched' or 'not matched' based on information provided in probation officer case notes. Coding match involved a holistic assessment of both the *quantity* of service (e.g., intensity of an identified treatment program as well as the consistency of youths' attendance) as well as service *quality* (e.g., evidence-based, conducted by trained personnel). An 'overall match' variable was also computed by dividing the number of matched domains by the total number of need domains identified as requiring service.

Table 1 – Demographic and offence information by Indigenous status

Variable	Indigenous	Non-Indigenous	Total	t-test/ χ^2 /FET
Age (mean in years)	15.54	15.30	15.43	$t=-0.73, p=.47$
% Gender (n in brackets)				
Male	67.6 (25)	75.8 (25)	71.4 (50)	
Female	32.4 (12)	24.2 (8)	28.6 (20)	
% Residence (n in brackets)				$\chi^2(1)=13.00, p<0.0001$
Urban	51.4 (19)	90.9 (30)	70.0 (49)	
Rural	48.6 (18)	9.1 (3)	30.0 (21)	
% Disposition (n in brackets)				<i>Fisher's Exact Test, p=.41</i>
Secure custody	22.2 (8) ¹	21.2 (7)	21.7 (15)	
Open custody	16.7 (6)	6.1 (2)	11.6 (8)	
Probation	61.1 (22)	72.7 (24)	66.7 (46)	
% Index Offense (n in brackets)				<i>Fisher's Exact Test, p=.34</i>
Administrative	18.9 (7)	18.2 (6)	18.6 (13)	
Non-violent	16.2 (6)	33.3 (11)	24.3 (17)	
Violent (non-sexual)	54.1 (20)	36.4 (12)	45.7 (32)	
Sexual	10.8 (4)	12.1 (4)	11.4 (8)	
% Recidivated (n in brackets)	70.3 (26)	66.7 (22)	68.6 (48)	$\chi^2(1)=0.11, p=.75$
Mean Days to Recidivism for youth who reoffended (n=48)	248.24	297.14	271.13	$t=0.98, p=.33$
% Reoffence Type (n in brackets)				$\chi^2(2)=2.45, p=.30$
Administrative	23.1 (6)	22.7 (5)	22.9 (11)	
Non-violent	34.6 (9)	54.6 (12)	43.8 (21)	
Violent (non-sexual)	42.3 (11)	22.7 (5)	33.3 (16)	
Sexual	0.0 (0)	0.0 (0)	0.0 (0)	

¹ One Indigenous youth was sentenced to five days of secure custody as a stopgap measure while awaiting admission to a mental health facility. This individual was excluded from disposition analyses, leaving a total sample size of n = 69.

Recidivism. Recidivism data were extracted from a national police criminal records database and corroborated by probation case notes. A youth was considered to have reoffended if he/she was convicted within two years of the release date (either at court or from secure custody) following the initial offence (the one for which the court-ordered assessment was completed). Any convictions within the first three months following the assessment date were not counted, in order to allow time for services to “kick in.” Recidivism was coded as a binary variable (yes/no) and – for those who reoffended – as a continuous variable (days to reoffence). Days to reoffence was calculated as the number of days the youth was in open custody or the community, and thus had the opportunity to both receive services and to reoffend, minus time spent in secure custody.

Qualitative Analysis

Sample

Participants included one youth court judge, one Crown Attorney, three community agency workers, and three probation officers ($N = 8$). Five identified as female and three identified as male, while seven identified as Caucasian and one identified as Aboriginal. Three participants were over 60 years of age, two were between 50-59 years, two were between 40-49 years, and one was under 30 years of age. Half of the sample ($N = 4$) held a university or college degree, while the other half ($N = 4$) held a post-graduate or professional degree. Participants' experience in their current positions ranged from 4 – 35 years (*median* = 19 years). Unfortunately, while efforts were made to reach out to justice-involved youth, we were unable to build the relationships needed to solicit their participation within the limited timeframe of the study.

Procedure

All interviews were conducted over the phone and lasted between 60 and 100 minutes ($M = 70.63$). While the primary researcher conducted the interviews, a colleague recorded participants' responses. Using thematic analysis (Braun and Clarke, 2006), transcripts were scanned for any information related to the criminogenic needs, service uptake, and recidivism of Indigenous and non-Indigenous youth. Over multiple readings, sections of text were assigned “codes,” or labels, taken from the transcripts themselves; these were grouped together under

broader themes (e.g., the codes “trauma” and “poverty” were subsumed into the theme “underlying issues”). Themes were renamed and rearranged until a final model was reached.

Key Findings

Quantitative Results – Comparative Analyses

Indigenous youth were not assessed as higher risk overall, but did score higher on peer- and leisure-related risk than non-Indigenous youth.

Indigenous and non-Indigenous youth did not significantly differ in terms of overall risk to reoffend, which runs contrary to previous findings that Indigenous youth score significantly higher on aggregate risk (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012). When examined at the domain level (see Table 2), Indigenous youth in the present study did score significantly higher on risk in the domains of peer association and leisure time, which is consistent with prior research (Olver et al., 2012; Jung & Rawana, 1999).

Whether they reside in small, remote communities or in larger towns and cities, Indigenous youths’ social participation (which relates both to peer affiliations and opportunities for prosocial leisure activities) may be limited. Urban and rural Indigenous youth report difficulty making friends with non-Indigenous peers due to racism and cultural differences (Belanger et al., 2003; OFNYPC, 2016). Moreover, urban Indigenous youth have been described as a highly mobile population, who may move within cities (as well as between cities and their home communities) multiple times for school, work, health, and other socioeconomically motivated reasons (Baskin, 2007; Brown et al., 2005). This has clear implications for their ability to sustain social networks and recreational commitments.

Table 2 – Total risk and domain scores for Indigenous and non-Indigenous youth

Variable	Indigenous	Non-Indigenous	Total	t-test
YLS/CMI Mean Scores				
Total Risk	19.59	18.22	18.96	$t=-0.76, p=.45$
Criminal History	1.62	1.31	1.48	$t=-0.81, p=.42$
Family	2.89	2.88	2.88	$t=-0.04, p=.97$
Education/Employment	3.05	3.44	3.23	$t=0.98, p=.33$
Peer	2.65	1.94	2.32	$t=-2.18, p=.03$
Substance Abuse	2.81	2.03	2.45	$t=-1.91, p=.06$
Leisure	1.97	1.47	1.74	$t=-2.67, p=.01$

Personality	2.92	3.47	3.17	$t=1.29, p=.20$
Attitudes	1.68	1.72	1.70	$t=0.12, p=.90$

Indigenous and non-Indigenous youth did not differ on number of identified needs, but Indigenous youth were significantly more likely to have needs relating to education and leisure.

Although both groups in our sample had comparable numbers of criminogenic needs overall, Indigenous youth were significantly more likely to have clinician-identified needs in the education and leisure domains, a finding that was not a function of where they lived (i.e., urban vs. rural communities). Virtually all Indigenous youth in our sample (94.6%) had needs in the education domain and 81.1% had needs in the leisure domain (see Table 3). These figures reflect broader challenges in schooling and recreation facing Indigenous youth across the country. Indeed, the education gap between Indigenous and non-Indigenous Canadians has been described as one of the nation's greatest public policy challenges (Richards, 2008). For First Nations and Metis individuals living off-reserve, 60% of men and 75% of women between the ages of 20 and 24 have a high school diploma; for non-Indigenous Canadians, this figure ranges from 84-91%, depending on the province (Richards, 2008). For the on-reserve Indigenous population, the divide is even more pronounced, with only 35.3% of individuals completing high school (Rosenbluth & Drummond, 2013).

With regard to leisure needs, research conducted with Indigenous youth across Canada has identified numerous barriers to participating in organized recreational activity, including lack of infrastructure and programming, limited access to transportation, pervasive underfunding, and continued racism (Brown et al., 2005; Mason & Koehli, 2012).

Table 3 – Need profiles of Indigenous and non-Indigenous youth by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Need-Yes (n in brackets)				
Family/parenting	81.1 (30)	93.9 (31)	87.1 (61)	FET, $p=.16$
Education/employment	94.6 (35)	69.7 (23)	82.9 (58)	$\chi^2(1)=7.61, p=.01$
Peer relations	94.6 (35)	81.8 (27)	88.6 (62)	FET, $p=.14$
Substance abuse	78.4 (29)	60.6 (20)	70.0 (49)	$\chi^2(1)=2.62, p=.11$
Leisure/recreation	81.1 (30)	57.6 (19)	70.0 (49)	$\chi^2(1)=4.59, p=.03$
Personality/behaviour	91.9 (34)	97.0 (32)	94.3 (66)	FET, $p=.62$

Attitudes/orientation 48.6 (18) 48.5 (16) 48.6 (34) $\chi^2(1)=0.00, p=.99$

***Indigenous and non-Indigenous youth do not differ
in the proportion of their needs met through services.
However, Indigenous youth are significantly less likely to have their peer needs met.***

Overall, number and proportion of criminogenic needs matched to services did not differ between groups. On average, the youth in this sample had about one third of their needs met ($M = 31.3\%$, $SD = 29.3\%$), a proportion comparable to that found in other studies (Peterson-Badali et al., 2015; Vieira et al., 2009). However, examining needs within the individual criminogenic need domains revealed that Indigenous youth were significantly less likely to have their peer association needs met (see Table 4); while 95% of Indigenous youth had a need identified in this domain, only 21% had it adequately addressed. As proposed above, it is possible that the social isolation experienced by Indigenous youth is not as easily resolved as for non-Indigenous youth. Traditional methods for addressing peer-related needs, such as encouraging school attendance or extra-curricular pursuits, may be hindered by the racism (Mason & Koehli, 2012; OFNYPC, 2016) and poverty (Abele & Delic, 2014; Latimer & Foss, 2004; Wilson & Macdonald, 2010) that Indigenous youth are likely to experience. Gang membership among Indigenous youth is likewise intertwined with issues of discrimination and disadvantage (Ogilvie & Eggleton, 2013; Sinclair & Grekul, 2012; Totten, 2009).

Table 4 – Proportion of Indigenous and non-Indigenous youth with identified needs matched by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Match-Yes (n in brackets)				
Family/parenting	13.8 (4)	22.6 (7)	18.3 (11)	$\chi^2(1)=0.77, p=.38$
Education/employment	11.8 (4)	13.0 (3)	12.3 (7)	FET, $p=1.00$
Peer relations	20.6 (7)	44.4 (12)	31.1 (19)	$\chi^2(1)=3.99, p=.05$
Substance abuse	34.5 (10)	40.0 (8)	36.7 (18)	$\chi^2(1)=0.16, p=.69$
Leisure/recreation	20.7 (6)	26.3 (5)	22.9 (11)	FET, $p=.73$
Personality/behaviour	51.5 (17)	62.5 (20)	56.9 (37)	$\chi^2(1)=0.80, p=.37$
Attitudes/orientation	11.1 (2)	12.5 (2)	11.8 (4)	FET, $p=1.00$

Recidivism rates did not differ between Indigenous and non-Indigenous youth.

Finally, recidivism rates and time to reoffence did not differ between the two groups (see Table 1), even when controlling for youths' prior criminal history. This is not consistent with previously published work indicating that Indigenous youth reoffend at significantly higher rates than their non-Indigenous peers (Luong & Wormith, 2011; Rojas & Gretton, 2007).

Quantitative Results – Predictive Analyses

The YLS/CMI predicted risk equally well for Indigenous and non-Indigenous youth.

Exploration of the YLS/CMI's predictive validity showed that the total risk score reliably distinguished recidivists from non-recidivists in the sample as a whole and predicted recidivism in Indigenous and non-Indigenous youth at comparable rates. These results are consistent with findings from the literature that the YLS/CMI significantly predicts recidivism for Indigenous youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver, Stockdale, & Wormith, 2009).

Match to services did not predict recidivism in either group, but did significantly predict time to reoffence in both groups.

Match to services did not emerge as a significant predictor of recidivism in either group. It is possible that the low baseline rates of match meant that services were not intensive enough in a sufficient number of domains to influence reoffending.

On the other hand, match to services was a significant predictor of time to reoffence, even when controlling for risk: for every 'unit' increase in the proportion service match variable, a youth's likelihood of reoffending decreased by 77.7%. This was the case for Indigenous and non-Indigenous youth alike. This lends support to the Need Principle of the RNR framework: addressing a higher percentage of youth's identified needs with appropriate services kept youth in the community longer – an important intermediary goal of probation.

Qualitative Results

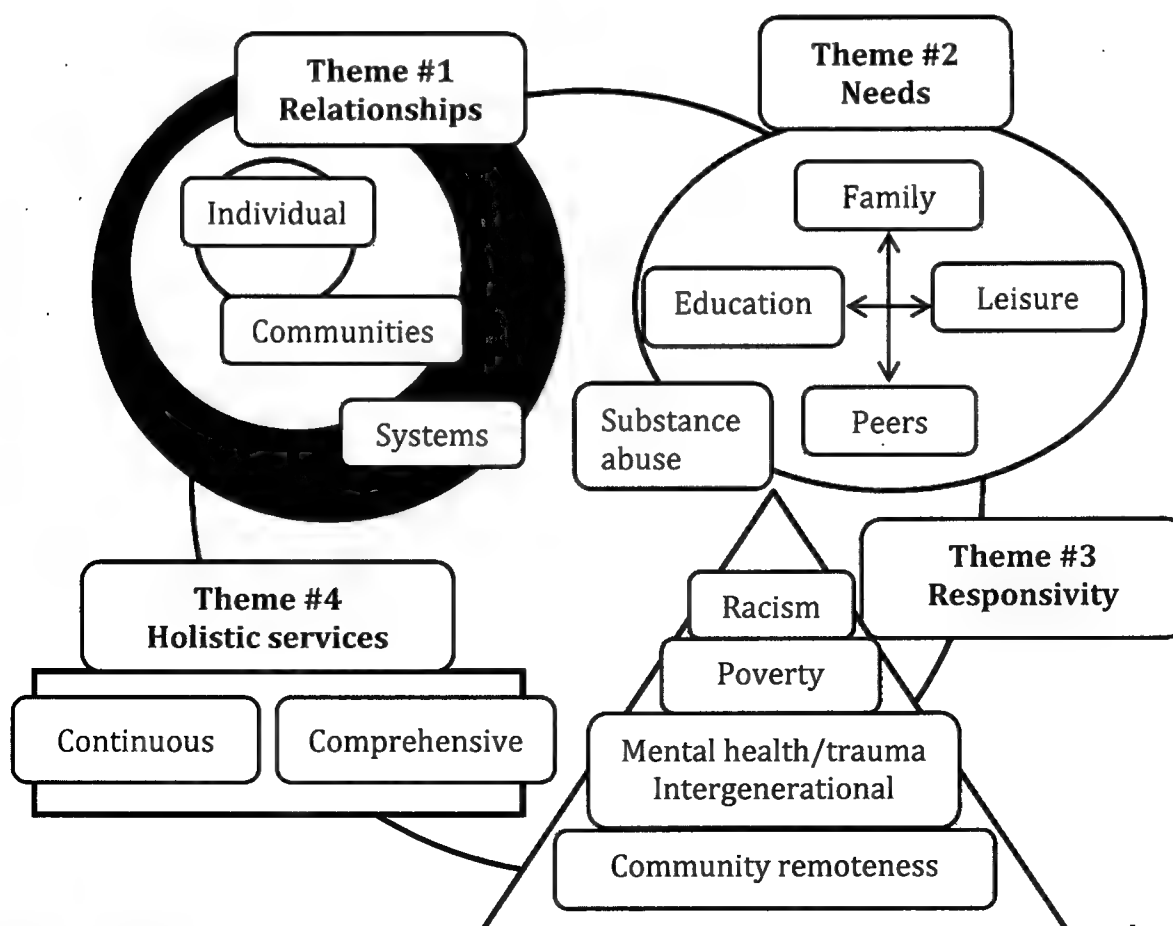


Figure 1 – Study Themes

Theme #1:
Relationships – at the systemic, community, and individual level – are critical to improving outcomes for Indigenous youth.

Participants highlighted the importance of cultivating relationships—between Indigenous and non-Indigenous philosophies and practices, between legal bodies and Indigenous communities, and between justice-affiliated personnel and the individual youth they serve. Interviewees described how Indigenous teachings and traditions are and should be integrated into mainstream judicial institutions, observing that they benefit Indigenous and non-Indigenous individuals alike. They noted that collaboration with Indigenous communities can generate localized and more effective forms of restorative justice. Participants also emphasized the

diversity among communities that would render any blanket approach to the administration of justice insensitive and ineffective.

At a personal level, all of the probation officers and community agency workers observed that forming a strong connection with youth was instrumental to their engagement in services, which needed to be tailored to the unique profile of each youth. Indeed, interviews with three Indigenous probation clients in another Canadian city revealed that their relationships with frontline workers made them feel supported and encouraged them to continue with programming (Finseth, 2014). Service providers in the present study noted that Indigenous-specific services are more relationally oriented, dedicating more time to relationship-building, delving deeper into personal issues, and creating opportunities for youth to explore their cultural identity.

Theme #2:
Indigenous youths' criminogenic needs have additional dimensions that differentiate them from non-Indigenous clients.

Participants touched on five areas of criminogenic need, noting ways in which some of these domains are especially problematic for Indigenous youth. Every interviewee mentioned family support as a (and perhaps the most) crucial factor in determining any youth's trajectory through the system. Two people identified family risk factors that they often find for Indigenous youth, such as parental FASD or lack of parenting skills, which they connected to longstanding issues stemming from colonization.

For four participants, education was a critical area requiring intervention. Two interviewees mentioned that they see Indigenous youth struggling to see the value of the education system – perhaps due to the legacy of residential schools – resulting in poor motivation and engagement. For two other interviewees, the school system itself was a barrier, unable to accommodate the learning needs of justice-involved youth in general.

Four interviewees flagged ongoing negative peer association as a defining feature of youth, including Indigenous youth, who remain in the system. One participant perceived Indigenous youth as feeling caught between their Indigenous and non-Indigenous peers, uncertain where to form friendships. Two participants described gang membership as the logical endpoint for Indigenous youth with no family or other support network.

Three participants mentioned constructive use of leisure time as a protective factor, although not as a pressing area of need, contrary to our quantitative findings.

All eight participants identified substance abuse as a pervasive problem for all justice-involved youth, placing it alongside lack of social support as a major predictor of continued involvement with the courts.

While all of these risk factors are captured in the RNR framework (and in RNR-based measures of risk such as the YLS/CMI), these reflections suggest that they do not manifest in the same way for Indigenous and non-Indigenous youth. (Similar discussions have arisen in the research literature on gender and criminogenic risk; e.g., Vitopoulos, 2016). Unpacking 'standard' RNR domains of criminogenic risk (e.g., 'family circumstances/parenting', 'leisure', and 'peers') to understand how they may 'look different' and operate differently for Indigenous youth is an important task for practitioners (who do this in an individualized way when they work with their clients), but also for designing policies and programs to meet youths' needs and to support rehabilitation as well as broader positive outcomes.

Theme #3:

Indigenous youths' criminogenic needs are embedded within systemic responsivity factors, including poverty, trauma, racism, and life on isolated reserves.

In terms of factors influencing youths' completion of diversion and probation programming, significant mental health issues (including trauma) were a concern, particularly for Indigenous youth. One person explicitly referred to intergenerational trauma as an added layer of need for Indigenous youth.

Half of participants saw poverty as barrier to service for many youth, with Indigenous youth from remote reserves being particularly disadvantaged. Financial insecurity, in turn, restricts housing options and limits access to transportation, which both interfere with participation in treatment. Yessine and Bonta (2009) identified poverty as a critical variable in their study of chronic offending among Indigenous and non-Indigenous youth: family interaction, peer association, and substance abuse predicted persistent criminal conduct for the former group but not for the latter. The authors connected these factors to the more severe poverty in the Indigenous group, which likely precipitated the breakdown of family support and adoption of unhealthy relationship and coping choices. Findings such as these, and the

information provided by our interview sample, provide possible explanations for the elevated risk in the peer and leisure domains and the identified needs in education and leisure observed in our quantitative analyses.

Two participants stated that Indigenous youth face the additional obstacle of racism, which magnifies the stigma they already face as justice-involved individuals.

Six interviewees described the unique circumstances and needs of Indigenous youth from remote reserves who come to Thunder Bay, usually to attend high school. These youth are often separated from their families, overwhelmed with unprecedented exposure and access to drugs, and unprepared for the demands of mainstream public high school. With these examples, participants demonstrated how an Indigenous youth's community of origin can have implications for multiple criminogenic domains and put them at risk for repeated offending.

Theme #4:

The interconnected and entrenched nature of the problems faced by Indigenous youth requires holistic treatment that is comprehensive and continuous.

The issue of how to address these difficulties brings us back to what participants said about the benefits of Indigenous teachings and services: a holistic approach. From the perspectives of four participants, diversion and probation programming needs to be comprehensive and continuous: it goes beyond the individual to involve members of the youth's family and community, and it goes beyond crisis management to include follow-up care. Participants described this kind of ecological, wrap-around service as implemented in some cases, but in need of more widespread application.

Implications & Future Directions

Action Item #1:

Replication with larger, cross-national samples

Both the quantitative and qualitative components of the present study had small sample sizes, which affects the generalizability of its findings. Given this caveat, and the fledgling state of research in this area in general, replication with larger samples is required. The authors are in the process of gathering data from Ontario for this purpose. However, as pointed out by our interviewees, the diversity among Indigenous communities requires particular attention to regional variation. Replications in other parts of the country are therefore also essential.

***Action Item #2:
Exploring areas of high need for Indigenous youth***

Ours is now the third study to find that Indigenous youth are assessed as higher risk in the peer and leisure domains (Jung & Rawana, 1999; Olver et al., 2012). Olver and colleagues (2012) also reported that Indigenous youth scored as higher risk in education, which was a need area reported in the court-ordered assessments significantly more for the Indigenous youth in our sample. This calls for closer examination of which particular elements of these domains are problematic for Indigenous youth and how these domains are currently targeted in treatment.

***Action Item #3:
Examining culturally specific factors***

This study focused exclusively on criminogenic needs within the RNR framework. However, there is theoretical and qualitative scholarship suggesting that colonization has created a distinctive set of circumstances for Aboriginal individuals that are not adequately reflected in existing risk assessment measures (Hannah-Moffat, 2013; Martel, Brassard, & Jaccoud, 2011). Factors such as disconnection from traditional culture and spirituality (Ellerby & McPherson, 2002), life on reserves (Hannah-Moffat & Maurutto, 2003), and intergenerational trauma related to attendance at residential schools (Mann, 2009) have been proposed as unique experiences influencing the lives of Aboriginal peoples, including their criminal behaviour. In the court-ordered assessments for the present sample, individual and family trauma were common treatment targets emphasized in the recommendations. Indeed, a recent study indicates that measures of family cohesion, residence on reserves, and community well-being increased the predictive validity of the YLS/CMI for Indigenous youth (Wilson, 2016). Other research has found that risk assessment tools *underreport* reoffending in Indigenous individuals assessed as at 'low risk' to reoffend (Wilson, 2016; Wilson & Gutierrez, 2014), suggesting that there may be additional factors not captured by existing measures that, if left unaddressed, will perpetuate criminal behaviour. Further investigation of culturally distinct factors associated with recidivism in this population is critical.

However, careful consideration – in collaboration with Indigenous researchers, practitioners, and community members – needs to be given to whether and how any such

'culturally-specific' factors are incorporated into assessment, case management, and intervention programs for justice-involved Indigenous youth. In particular, couching systemic problems and disadvantage affecting Indigenous youth within the language of 'risk' (e.g., adding new 'risk factors' to RNR-based assessment tools) – even if these add to the predictive accuracy of such instruments – has the appearance (if not the effect) of 'responsibilizing' individuals for the legacy of colonization and the many and ongoing disadvantages experienced by Indigenous individuals and communities. Thus, in addition to exploring the variables that may be more potentially associated with reoffending for Indigenous than non-Indigenous youth, we also need to give careful consideration to what framing of those issues is most likely to benefit youth – and to avoid doing what may seem like 'valid' research (or policymaking or programming) that results in additional harms. Taxman's concept of systemic responsivity (Taxman, 2014; Taxman & Caudy, 2015) may provide a useful lens through which to consider possible culturally-specific factors (see Action Item #5).

Action Item #4:

Evaluating the efficacy and mechanisms of change of culturally specific services

Interviewees provided anecdotal support for the efficacy of Indigenous-specific diversion programming, but evaluations of such programs are scarce. Studies of culturally tailored treatment are mostly qualitative or quasi-experimental, with incarcerated adult Indigenous samples; they reveal high levels of engagement and satisfaction among program participants (Heckbert & Turkington, 2001; Trevethan, Crutcher, & Rastin, 2002; Trevethan, Moore, & Allegri, 2005; Zellerer, 2003) but no improvement in recidivism (Trevethan et al., 2002; Trevethan et al., 2005). For Indigenous youth and adults alike, we need a better of understanding of how culturally tailored services are being delivered (process evaluation), whether they affect recidivism (outcome evaluation), and, if so, what components of those programs are the active ingredients of change. Preliminary research suggests that Indigenous-specific programming treats the same needs identified in the RNR framework, but approaches them differently from mainstream programming (Finseth, 2014); further exploration of the extent to which culturally sensitive services overlap with restorative justice frameworks and with the RNR model is warranted.

Action Item #5:***Testing the impact of treating systemic responsivity variables for Indigenous youth***

Taxman and colleagues propose that mental health, life skills, socioeconomic status, housing, and transportation can be conceptualized as *systemic* responsivity factors that influence individuals' response to intervention; termed '(de)stabilizers,' these variables determine the extent to which a person can attend and engage in treatment, thereby indirectly affecting recidivism (Taxman, 2014; Taxman & Caudy, 2015). Our interview participants stressed the importance of addressing such variables to improve outcomes for youth; a sample of justice system personnel and service providers in Toronto, Ontario made the same point, highlighting housing, mental health, and transience as key targets of intervention for their Indigenous youth clients (Finseth, 2014). These consistent findings indicate the value of exploring the impact of treating systemic responsivity factors on recidivism among Indigenous youth; to date, no quantitative investigations of this association have been conducted.

Action Item #6:***Gathering the perspectives of Indigenous justice-involved youth***

Finally, researchers need to engage with former and current probation clients themselves, to hear from their perspectives what facilitates and interferes with completing their diversion programming. Scholarship has stressed the importance of seeking out and heeding the voices of Indigenous individuals especially, given their continued marginalization (Cunneen, 2011). There are a handful of studies profiling the experiences of Indigenous youth and young adults with gang membership (Grekul & LaBoucane-Benson, 2009), community reintegration (Brown et al., 2005), custody (Latimer & Foss, 2004), and culturally-specific diversion services (Finseth, 2014), but, to our knowledge, no comprehensive discussion of the diversion process and outcomes. Justice-involved youth can provide valuable insight into how they are and can be more effectively engaged in services, especially in those domains (such as peer relations) where we have found that their needs are not being met. Although Indigenous youth were not included in the present study, the authors acknowledge the necessity of their involvement in any diversion program planning, delivery, and evaluation. Building relationships with and seeking the views of Indigenous youth will be a key element of the follow-up work to this research.

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Appendix A: Description of the YLS/CMI Assessment of Risks and Needs

Domain	Description of items	Sample items
Criminal history	Conviction, custody, and probation history	a. Three or more prior convictions b. Two or more failures to comply
Family	Relationship, supervision, and parenting difficulties	a. Inappropriate discipline b. Difficulty controlling behavior
Education/employment	Attendance, achievement, and behaviour issues	a. Disruptive classroom behaviour b. Truancy
Peer relations	Presence of antisocial and absence of prosocial relationships	a. Some delinquent friends b. No/few positive friends
Substance abuse	Degree of substance abuse problems, from least to most intrusive	a. Occasional drug use b. Chronic drug use
Leisure/recreation	Lack of interests and organized pursuits	a. Limited organized activities b. Could make better use of time
Personality/behaviour	Aggression, egotism, and poor impulse and emotion regulation	a. Inflated self-esteem b. Poor frustration tolerance
Attitudes/orientation	Callousness, defiance, and antisocial beliefs	a. Actively rejecting help b. Defies authority



The relationship between risk, criminogenic need, and recidivism
for Indigenous justice-involved youth:
A comparative, mixed-methods investigation

A report for the Aboriginal Justice Directorate
Department of Justice Canada

August 17, 2016

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Introduction

Overrepresentation of Indigenous Youth in the Justice System

The overrepresentation of Indigenous peoples in the justice system is a longstanding and ongoing issue (Jackson, 1989; Jeffries & Stenning, 2014; La Prairie, 2002; RCAP, 1996; Rudin, 2005), for Indigenous youth specifically as well (Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Leonard, Olah, & Dilworth, 1999; Milligan, 2008). In 2011, Indigenous youth represented 5.9% of Canada's youth population (Statistics Canada, 2013), and yet constituted 26% of youth admitted to the correctional system (Munch, 2012). The Truth and Reconciliation Commission of Canada identified the overrepresentation of Indigenous youth in custody as a priority issue, calling upon the federal and provincial governments to end this overrepresentation in the next ten years (TRCC, 2015).

The cause of this overrepresentation is a multifaceted and complex question. Research has explored policing practices (Comack, 2012; Linden, 2005), sentencing decisions (Rudin & Zimmerman, 2014; Welsh & Ogloff, 2008), and individual or family circumstances (Corrado, Kuehn, & Margaritescu, 2014) as potential contributing factors. However, there is consensus among researchers and practitioners in the field that the ongoing effects of colonization exert a significant influence on the lives of Indigenous youth.

The question that necessarily follows is how best to combat this pressing issue. While it is important to address the broader socio-political factors (such as racism, poverty, and poor educational opportunities) affecting Indigenous youth before they come in contact with the law, it is equally important to provide support and services to those who are already involved with the justice system, with the goal of ultimately helping them escape the cycle of reoffending.

Therefore, the goal of the present study was to explore how assessment and treatment of risk factors for recidivism are related to outcomes for Indigenous justice-involved youth.

Rehabilitation and Justice: The Risk-Need-Responsivity Model

The goal stated above aligns with the broader philosophy of rehabilitation that guides current research, policy and practice in Canadian corrections (Andrews & Bonta, 2010b). Studies have shown that the “get tough on crime” model of justice, which promotes punishment over prevention and treatment, is ineffective; it is an unsuccessful deterrent sustained at a massive economic cost and at the expense of racialized minorities (Andrews & Bonta, 2010b). The rehabilitative model of justice holds that addressing the factors that trigger and sustain involvement with the legal system can lower crime rates and, ultimately, return individuals to productive participation in society. With this aim in mind, Andrews and colleagues (Andrews, Bonta, & Hoge, 1990) developed the Risk-Need-Responsivity (RNR) model, an evidence-based and internationally applied conceptualization of criminal conduct that evaluates an individual’s risk to reoffend. RNR-based assessments inform sentencing decisions and the development and implementation of case management plans in custody and the community; in this way, the RNR model guides rehabilitation efforts at multiple points in an offender’s trajectory through the justice system.

The RNR framework posits that recidivism can be predicted and reduced by examining factors within offenders and factors within the correctional system, as well as how the two interact (Andrews, Bonta, & Hoge, 1990). The *risk principle* states that as risk to reoffend increases, so should intensity of intervention; higher risk individuals respond optimally to more intensive services, while lower risk individuals respond optimally to less intensive services (Andrews et al., 1990).

The *need principle* asserts that interventions should target individual-level characteristics that are related to offending. Therefore, criminogenic needs (strong and direct predictors of reoffending) should be the intermediate targets of change, as opposed to noncriminogenic needs (weak and/or indirect predictors of reoffending; Andrews & Bonta, 2010a). Eight criminogenic needs have been established as strong predictors of recidivism: history of criminal conduct, family circumstances and parenting, education and/or employment issues, peer relations, substance abuse, leisure and recreational activities, personality and behaviour, and antisocial attitudes and orientation. Of the eight domains, seven represent dynamic criminogenic needs while one (criminal history) is static. Dynamic needs are amenable to change and therefore potential targets of intervention; by contrast, criminal history cannot alter or be addressed through treatment (Andrews & Bonta, 2010a).

Finally, the *responsivity principle* holds that, in order to optimize effectiveness of services directed at criminogenic needs, interventions should be evidence-based (general responsivity principle) and tailored to individual traits and circumstances (specific responsivity principle; Bonta, 1995).

The Relationship between Risk, Need, and Recidivism for Indigenous Youth

The widespread use of risk assessment instruments that may not accurately reflect the risk profile and treatment needs of Indigenous youth has serious implications. On one hand, critical criminologists argue that higher risk scores for Indigenous youth (and adults) are a reflection of the correctional justice system's tendency to 'responsibilize' individuals for systemic social problems and disadvantage (e.g., poverty, lack of educational opportunities and supports for healthy development). The argument continues that 'standard' risk instruments, developed and normed largely with Caucasian males, are products of and therefore perpetuate

this systemic oppression (Hannah-Moffat, 2013; Martel, Brassard, & Jacoud, 2011). As a result, Indigenous offenders are subjected to harsher (lengthier and more stringent) sentencing conditions than non-Indigenous offenders. On the other hand, research cited below has found that risk assessment tools *underreport* reoffending in Indigenous individuals assessed as at 'low risk' to reoffend (Wilson, 2016; Wilson & Gutierrez, 2014), suggesting that there may be other factors not captured by existing measures that, if left unaddressed, will perpetuate criminal behaviour. A third consideration is that if certain criminogenic needs do not predict offending behaviour for Indigenous youth, then significant resources are being invested in areas that will not necessarily improve outcomes. For these reasons, it is imperative to continue to examine the extent to which risk factors identified in the RNR model apply to Indigenous youth.

Although the RNR model is highly influential within Canadian corrections (Hannah-Moffat & Maurutto, 2003; Ogloff & Davis, 2004), research on its applicability to Indigenous youth is scarce. The small body of literature to date indicates that Indigenous youth have significantly higher total risk scores (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012) and higher recidivism rates (Luong & Wormith, 2011; Rojas & Gretton, 2007) than non-Indigenous youth. Compared to their non-Indigenous peers, Indigenous youth have been found to score higher on the specific risk domains of peers, substance use, and leisure/recreation (Jung & Rawana, 1999; Olver et al., 2012), as well as criminal history and education (Olver et al., 2012). However, the presence of higher scores in one group compared to another on a given variable does not imply that the variable is a more potent predictor of outcome (e.g., reoffending) in one group than another; in other words, the fact that a particular 'risk factor' is more prevalent or acute in one group does not tell us about whether that risk factor predicts outcome equally well in both groups.

Turning to studies that have examined risk prediction, research to date indicates that risk assessment measures significantly predict recidivism for Indigenous justice-involved youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver, Stockdale, & Wormith, 2009), although there is evidence that they are *less predictive* of reoffending than for non-Indigenous youth (Luong & Wormith, 2011). Indeed, one recent study reported that the risk assessment *underestimated* reoffending in low and moderate risk Indigenous youth (Wilson, 2016). A similar pattern emerges in studies of Indigenous adults and youth, where measures significantly predict recidivism, but some scales – criminal history, antisocial attitude, and substance use – have lower predictive validity for Indigenous individuals (Gutierrez, Wilson, Rugge, & Bonta, 2013) and aggregate risk scores underestimate recidivism for Indigenous individuals classified as low risk (Wilson & Gutierrez, 2014).

There is preliminary evidence suggesting that there are factors outside the central eight criminogenic needs that uniquely define justice-involved Indigenous youth. In a sample of Indigenous adults and youth, history of victimization and emotional problems emerged as significant predictors of recidivism (Gutierrez et al., 2013). In a sample of Indigenous youth, spiritual support from a family member or Elder significantly predicted general recidivism, while spiritual support along with residence on reserve and low community-wellbeing predicted violent recidivism (Wilson, 2016).

From this small body of literature, it is not yet clear whether Indigenous justice-involved youth have a distinct risk profile or whether risk assessment measures have equal predictive validity for Indigenous and non-Indigenous youth. Moreover, while it had been demonstrated that receiving intervention targeted at criminogenic needs predicts and reduces recidivism (Peterson-Badali, Skilling, & Haqanee, 2015; Vieira, Peterson-Badali, & Skilling, 2009),

providing strong support for the rehabilitative efficacy of the RNR model, there is no research to date on whether this relationship holds for Indigenous youth. The present study aimed to attenuate the knowledge gaps around these important questions.

The authors adopted a mixed-methods approach, pairing secondary data analysis with firsthand accounts gathered from those working directly with justice-involved youth. It was reasoned that a qualitative component would complement and support interpretation of the quantitative findings. Moreover, frontline workers possess expert knowledge and insight that is not captured by quantitative instruments. For example, in a study examining how probation officers conceptualize and address criminogenic needs, participants revealed that they directly target needs that can indirectly lead to improvement in other domains (e.g., enforcing school attendance to ameliorate use of leisure time and choice of peers); a high impact need was thus determined based on its 'spillover' effect and not necessarily on the results of a formal risk assessment (Haqanee, Peterson-Badali, & Skilling, 2015).

The overall objective of the present study was to examine outcomes for Indigenous justice-involved youth compared to their non-Indigenous peers by exploring how risk levels, criminogenic needs, and addressing identified needs through probation case management and referral to services related to recidivism in these groups. Within this overall objective, the study addressed three core research questions: 1) Determine whether Indigenous and non-Indigenous youth differ significantly in terms of: level of risk, number or type of criminogenic needs, extent to which identified needs are addressed through service ('service match'), and rates of recidivism; 2) Ascertain to what extent the variables of risk and service match predict recidivism for Indigenous and non-Indigenous youth and whether they differentially predict recidivism for these two groups; and 3) Establish whether these quantitative measures are consistent with the

qualitative experiences of justice system service providers. In answering these questions, this paper contributes to our understanding of whether and how the prevailing framework for assessing and managing risk applies in theory and works in practice for Indigenous youth.

Method

Quantitative Analysis

Sample

Data were obtained from the records of 70 youth (37 Indigenous, 33 non-Indigenous) who had been charged with a criminal offense and underwent a court-ordered assessment for sentencing purposes at a children's mental health center in northern Ontario, Canada. Table 1 presents demographic and offence information broken down by Indigenous/non-Indigenous status.

Consistent with overall gender differences observed in the youth justice system, there were more males than females in each group, although the proportions did not differ significantly. Due to the small number of females in the sample – particularly when broken down by Indigenous status, the primary variable of interest – gender was not included as a variable in the analyses. Testing revealed no significant differences between males and females on total risk score, $t(45) = -0.78, p = .44$, number of needs, $t(68) = -0.73, p = .47$, proportion of needs matched to services, $t(67) = 0.01, p = 1.00$, or recidivism, $\chi^2(1, N = 70) = 1.70, p = .19$.

Because scarcity of services in remote areas has been well documented (Nuffield, 2003), information on place of residence was also gathered. As Table 1 shows, place of residence was overwhelmingly urban for the non-Indigenous group, while almost half of the Indigenous youth lived in rural areas (including isolated reserves).

Table 1 – Demographic and offence information by Indigenous status

Variable	Indigenous	Non-Indigenous	Total	t-test/ χ^2 /FET
Age (mean in years)	15.54	15.30	15.43	$t=-0.73, p=.47$
% Gender (n in brackets)				
Male	67.6 (25)	75.8 (25)	71.4 (50)	
Female	32.4 (12)	24.2 (8)	28.6 (20)	
% Residence (n in brackets)				$\chi^2(1)=13.00, p<0.0001$
Urban	51.4 (19)	90.9 (30)	70.0 (49)	
Rural	48.6 (18)	9.1 (3)	30.0 (21)	
% Disposition (n in brackets)				<i>Fisher's Exact Test, p=.41</i>
Secure custody	22.2 (8) ¹	21.2 (7)	21.7 (15)	
Open custody	16.7 (6)	6.1 (2)	11.6 (8)	
Probation	61.1 (22)	72.7 (24)	66.7 (46)	
% Index Offense (n in brackets)				<i>Fisher's Exact Test, p=.34</i>
Administrative	18.9 (7)	18.2 (6)	18.6 (13)	
Non-violent	16.2 (6)	33.3 (11)	24.3 (17)	
Violent (non-sexual)	54.1 (20)	36.4 (12)	45.7 (32)	
Sexual	10.8 (4)	12.1 (4)	11.4 (8)	
% Recidivated (n in brackets)	70.3 (26)	66.7 (22)	68.6 (48)	$\chi^2(1)=0.11, p=.75$
Mean Days to Recidivism for youth who reoffended (n=48)	248.24	297.14	271.13	$t=0.98 p=.33$
% Reoffence Type (n in brackets)				$\chi^2(2)=2.45, p=.30$
Administrative	23.1 (6)	22.7 (5)	22.9 (11)	
Non-violent	34.6 (9)	54.6 (12)	43.8 (21)	
Violent (non-sexual)	42.3 (11)	22.7 (5)	33.3 (16)	
Sexual	0.0 (0)	0.0 (0)	0.0 (0)	

¹ One Indigenous youth was sentenced to five days of secure custody as a stopgap measure while awaiting admission to a mental health facility. This individual was excluded from disposition analyses, leaving a total sample size of n = 69.

Youth were categorised according to the most serious offence for which they were convicted at the disposition relating to the court-ordered assessment. Offences were classified as administration of justice (e.g. failure to comply, escape from custody), nonviolent (e.g. damage to property, public intoxication), violent nonsexual (e.g. robbery, assault), and sexual (e.g. sexual interference, sexual assault). While a greater proportion of Indigenous youth were convicted of violent nonsexual offences and, conversely, a greater proportion of non-Indigenous youth were convicted of nonviolent offences, the difference was not statistically significant ($p = .34$, two-tailed Fisher's exact test). While the same pattern held for reoffence convictions, the difference was again not statistically significant (see Table 1).

All youth received a probation disposition, either immediately following their sentencing (66.7%, $N = 46$) or after a term of secure (21.7%, $N = 15$) or open (11.6%, $N = 8$) custody. We were interested specifically in the community portion of the youths' disposition, when they were under the case management of a probation officer. This involved time spent in open custody and in the community.

Measures

Risk. Youths' risk to reoffend was assessed with the Youth Level of Service Inventory/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011). A standardized and normed instrument derived directly from the RNR framework, the YLS/CMI has moderate to strong internal consistency and interrater reliability (Schmidt, Hoge, & Gomes, 2005) as well as concurrent validity with the Child Behavior Checklist (Schmidt et al., 2005) and Youth Self Report (Skilling & Sorge, 2014), which are widely-used measures of behavior problems in children and adolescents.

To complete the YLS/CMI, information is gathered from youth, parents, collateral sources (e.g. teachers), and from previous reports. Parts I and II consist of a detailed 42-item survey of youth risk and criminogenic needs according to the eight domains identified in the RNR framework. Each of the items is coded present or absent. Items within each of the eight domains are combined to provide a need score that is categorized as low, moderate, or high based on YLS/CMI norms. An overall risk for recidivism score is calculated based on the entire checklist and assigned a corresponding risk category (low, moderate, high, and very high). Responsivity variables (e.g., cognitive functioning, cultural and/or language issues) are coded from Part III of the YLS/CMI.

For the present study, each youth's profile included two assessments with this tool: one completed at the mental health centre and another completed by his/her probation officer (termed a 'Risk Need Assessment', or RNA, in the Ontario youth probation system). We compared the YLS/CMI scores derived from the court-ordered assessment to the probation scores from the RNA that was closest chronologically to the assessment. Although the total scores were strongly correlated, $r = .77, p < .001$, a paired samples t-test showed that probation officers' total risk scores ($M = 20.99, SD = 8.77$) were significantly higher than clinicians' scores ($M = 18.96, SD = 7.50$), $t(68) = -2.96, p < .001$; however, both average total risk scores fell within the moderate risk range. Only one criminogenic need domain yielded significant differences in professional ratings of risk: probation officers rated family circumstances/parenting as higher risk ($M = 3.30, SD = 1.45$) than the clinicians did ($M = 2.88, SD = 1.58$), $t(68) = -2.33, p = .02$. This indicates that, overall, probation officers and clinicians had similar understandings of what constituted risk factors for the youth in this sample.

Examining the qualitative categories (low, moderate, high, and very high) corresponding to the YLS/CMI total risk scores, clinician and probation officer ratings resulted in different categorizations of the same youth in 34.8% of cases (24 out of 69). All but four of the cases resulted in the probation officer assigning a higher risk categorization than the clinician. Half of the cases involved Indigenous youth and half involved non-Indigenous youth, indicating that no one group was disparately categorized more than the other.

In subsequent analyses, the clinicians' scores alone were used as risk measures, partly for simplicity (with the knowledge that they closely mirrored probation officers' scores), but also because they were gathered at the same time as, and helped to inform, the need profile for each youth (described in the next study measure). Only one set of clinician YLS/CMI scores was missing, leaving a total sample of $n = 69$ for analyses involving risk variables.

Criminogenic need. Each court-ordered assessment concluded with a summary and list of recommendations that highlighted the youth's needs and targets for intervention. These conclusions mapped on to the seven dynamic risk domains of the YLS/CMI, although they also referenced areas outside of its purview (e.g., mental health issues such as depression or anxiety, trauma history, connection to culture and spirituality, mentorship, and life skills acquisition, to name some of the most common). For each of the seven dynamic criminogenic need domains, a need was coded as 'present' if it was mentioned anywhere in the conclusion section of the report – including, but not limited to, the recommendations – or 'absent' if it was not mentioned anywhere in the summary and recommendations section. Criminogenic need was explored separately from YLS/CMI scores in this way because research has shown that offenders with similar risk scores can have very different need profiles (Taxman & Caudy, 2015).

Match to services. Recall that 'service matching' refers to the extent to which youths' identified criminogenic needs were addressed (e.g., via specific programs, intervention services, or through probation case management). Thus, for each youth, each criminogenic need domain in which a need was identified (i.e., coded as 'present'), was coded as 'matched' or 'not matched' based on information provided in probation officer case notes. These case notes document every instance of contact between the probation officer and the youth or anyone connected to the youth (e.g., family members, peers, educators, service providers, etc.). Case notes are used to monitor a youth's adherence to the conditions of his or her sentence and to track progress towards probation goals. Entries include records of conversations with youth clients, summaries of telephone updates from parents, minutes from circle of care planning sessions, reports of program participation and completion from youth-serving agencies, and attendance records from schools, as well as any court appearances or police contact. From this detailed and ongoing account, it is possible to extract information about the intervention that a youth receives over the course of probation.

Based on this data, coding match involved a holistic assessment of both the *quantity* of service (e.g., intensity of an identified treatment program as well as the consistency of youths' attendance) as well as service *quality* (e.g., evidence-based, conducted by trained personnel). An identified need was coded as 'not matched' if there was no mention of intervention or case management activity, if intervention was attempted but the youth attended few sessions, or if a youth had some case management or treatment that was not evidence-based. An identified need was coded as 'matched' if a youth participated consistently in programming (even if it was not considered 'high quality' – e.g., evidence based) or if a youth participated (even moderately) in evidence-based programming or case management.

An 'overall match' variable was also computed by dividing the number of matched domains by the total number of need domains identified as requiring service. For example, if a youth had four criminogenic need domains identified as requiring service and was coded as 'matched' for service in two of those domains, the overall proportion match score would be .50.

Recidivism. Recidivism data were extracted from a national police criminal records database and corroborated by probation case notes. A youth was considered to have reoffended if he/she was convicted within two years of the release date following the initial offence (the one for which the court-ordered assessment was completed). This release date always occurred at sentencing (if the youth was released at court) or after sentencing (if the youth had to complete a term of secure custody), to minimize the impact of court processing time on the data. Any convictions that fell within the first three months following the assessment date were not counted. This three-month period was set aside in order to allow time for services to "kick in," with the reasoning that a youth who reoffends immediately after release to the community has not had an opportunity to have his/her needs addressed.

Recidivism was coded as a binary variable (yes/no) and – for those who reoffended – as a continuous variable (days to reoffence). Days to reoffence was calculated as the number of days the youth was in open custody or in the community and thus had the opportunity to both receive services and to reoffend. This variable was calculated by subtracting the reoffence date from the release date (described above). Time spent in secure custody during that period was also deducted from the time to reoffence. Time in the community was included as an outcome in the study to reflect the multifaceted goals of diversion programming. Although the ultimate objective is to prevent recidivism, exposure to and engagement in life outside of an institutional

setting, with the potential for prosocial relationships and activities, is an important outcome of probation services.

Qualitative Analysis

Theoretical orientation

The Indigenist research paradigm (Longboat, 2008; Ray & Cormier, 2012; Steinhauer, 2002; Weber-Pillwax, 2001; Wilson, 2007, 2008) views research as fundamentally relational, to be consistent with Aboriginal worldviews grounded in the interconnectedness of all life. It was therefore integral to the present study to include the perspectives of those who work with justice-involved youth, as a way of contextualizing our analyses within the lived experience of people in the field, whose knowledge of risk, need, and recidivism could generate novel perspectives and connections beyond the scope of our standardized measures. Considering the influence of risk assessment at multiple points in the judicial process—from sentencing to service delivery—we identified judges, lawyers, youth court workers, probation officers, and community agency workers as key stakeholder groups to approach.

Of course, the most important stakeholders in this process are justice-involved youth themselves. Unfortunately, while efforts were made to reach out to youth through the frontline workers, the limited timeframe of the study prevented the kind of intensive relationship-building necessary to earn the trust of these vulnerable youth. We were therefore unable to include any youth in our qualitative analyses.

Sample

Participants included one youth court judge, one Crown Attorney, three community agency workers, and three probation officers ($N = 8$). Five identified as female and three

identified as male, while seven identified as Caucasian and one identified as Aboriginal. Three participants were over 60 years of age, two were between 50-59 years, two were between 40-49 years, and one was under 30 years of age. Half of the sample ($N = 4$) held a university or college degree, while the other half ($N = 4$) held a post-graduate or professional degree. Participants' experience in their current positions ranged from 4 – 35 years (*median* = 19 years).

Procedure

Through purposive sampling, the primary researcher invited individuals to participate in the study by email, either directly or after initially liaising with management at their institutions (e.g., probation manager at the probation office). Prospective interviewees were emailed an information letter describing the study along with a consent form. Participants either emailed back the signed consent form or provided verbal consent prior to the interview. All interviews were conducted over the phone and all were prefaced by a review of the consent form, regardless of whether a signed copy had been received. Interviews lasted between 60 and 100 minutes ($M = 70.63$). Using the snowball sampling method, interviewees were asked, if they felt comfortable doing so, to suggest names of colleagues who might be interested in participating.

While the primary researcher conducted the interviews, a colleague recorded participants' responses. These transcripts formed the basis for a study of culturally-specific diversion programming for Indigenous youth (Finseth, 2014; Finseth & Peterson-Badali, 2015). The present qualitative investigation involved interpretation of these same transcripts following the thematic analysis approach laid out by Braun and Clarke (2006).

The first step of thematic analysis is to identify the researcher's theoretical framework. In this case, we adopted a top-down orientation, approaching the data with the intention of linking it to the quantitative questions posed in this study. The coder was thus seeking any information

related to the criminogenic needs, service uptake, and recidivism of Indigenous and non-Indigenous youth. Since this qualitative analysis was seen as an opportunity to complement, expand, and even challenge our quantitative findings, any comments related to these points were included. The focus was on the semantic content of the interviews, which were treated as realistic representations of experience. Over the course of multiple readings, sections of text were assigned “codes,” or labels, taken from the transcripts themselves; these were grouped together under broader themes (e.g., the codes “trauma” and “poverty” were subsumed into the theme “underlying issues”). Themes were renamed and rearranged until a final model was reached.

Results

Quantitative Findings – Comparative Analyses

Question 1.a. Do Indigenous and non-Indigenous youth differ in level of risk?

There was no significant difference between Indigenous and non-Indigenous youths’ total risk score. As Table 2 shows, in terms of domain-specific evaluation of risk, two significant differences emerged. Scores in the peer relations domain were significantly higher for Indigenous youth than for non-Indigenous youth. Likewise, Indigenous youth were rated as significantly higher risk in the leisure/recreation domain than their non-Indigenous peers.

Due to the high proportion of rural Indigenous youth, two-way ANOVAs were conducted to examine the effect of Indigenous status and rural residence on the two observed significant elevations in risk. There was no main effect of residency type and no significant interaction between the effects of Indigenous and rural status on peer association risk, $F(1, 65) = .03, p = .86$, or on leisure risk, $F(1, 65) = .09, p = .76$.

Table 2 – Total risk and domain scores for Indigenous and non-Indigenous youth

Variable	Indigenous	Non-Indigenous	Total	t-test
YLS/CMI Mean Scores				
Total Risk	19.59	18.22	18.96	$t=-0.76, p=.45$
Criminal History	1.62	1.31	1.48	$t=-0.81, p=.42$
Family	2.89	2.88	2.88	$t=-0.04, p=.97$
Education/Employment	3.05	3.44	3.23	$t=0.98, p=.33$
Peer	2.65	1.94	2.32	$t=-2.18, p=.03$
Substance Abuse	2.81	2.03	2.45	$t=-1.91, p=.06$
Leisure	1.97	1.47	1.74	$t=-2.67, p=.01$
Personality	2.92	3.47	3.17	$t=1.29, p=.20$
Attitudes	1.68	1.72	1.70	$t=0.12, p=.90$

Question 1.b. Do Indigenous and non-Indigenous youth differ in number and type of criminogenic needs?

Of seven possible dynamic criminogenic need domains that could be identified as requiring service, Indigenous youth had nearly six identified by clinicians, on average ($M = 5.70$, $SD = 1.15$), whereas non-Indigenous youth had five domains identified ($M = 5.09$, $SD = 1.47$), $t(68) = -1.95, p = .05$. In terms of specific criminogenic domains, Indigenous youth were significantly more likely to have needs in the Education and Leisure domains than non-Indigenous youth (see Table 3).

To determine whether the substantially higher number of Indigenous youth from rural areas potentially affected these results, a loglinear analysis was conducted. It revealed no significant interaction between Indigenous status, rural residence, and education need, $\chi^2(1) = 0.00, p = .96$, and no significant interaction between Indigenous status, rural residence, and leisure need, $\chi^2(1) = 1.12, p = .29$.

Table 3 – Need profiles of Indigenous and non-Indigenous youth by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Need-Yes (n in brackets)				
Family/parenting	81.1 (30)	93.9 (31)	87.1 (61)	FET, p=.16
Education/employment	94.6 (35)	69.7 (23)	82.9 (58)	$\chi^2(1)=7.61$, p=.01
Peer relations	94.6 (35)	81.8 (27)	88.6 (62)	FET, p=.14
Substance abuse	78.4 (29)	60.6 (20)	70.0 (49)	$\chi^2(1)=2.62$, p=.11
Leisure/recreation	81.1 (30)	57.6 (19)	70.0 (49)	$\chi^2(1)=4.59$, p=.03
Personality/behaviour	91.9 (34)	97.0 (32)	94.3 (66)	FET, p=.62
Attitudes/orientation	48.6 (18)	48.5 (16)	48.6 (34)	$\chi^2(1)=0.00$, p=.99

Question 1.c. Do Indigenous and non-Indigenous youth differ in match to services?

The two groups did not significantly differ on number of needs matched, $t(67) = 1.04$, $p = .30$, with Indigenous youth ($M = 1.39$, $SD = 1.27$) and non-Indigenous youth ($M = 1.73$, $SD = 1.42$) having, on average, between one and two domains addressed through adequate intervention. Similarly, both groups had comparable overall proportions of needs matched, $t(61) = 1.63$, $p = .11$, with Indigenous youth getting about one quarter of their needs met ($M = .26$, $SD = .25$) and non-Indigenous youth getting roughly one-third of their needs met ($M = .37$, $SD = .32$).

A chi square analysis compared match for both groups domain by domain, to see whether they diverged in kinds of services received (see Table 4). The only significant difference was in the peer domain, with Indigenous youth significantly less likely to have their needs in this area matched compared to non-Indigenous youth, $\chi^2(1, N = 61) = 4.00$ $p = .05$. Of the 34 Indigenous youth with an identified need in peer association, 27 did not receive sufficient services to address this need.

Table 4 – Proportion of Indigenous and non-Indigenous youth with identified needs matched by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Match-Yes (n in brackets)				
Family/parenting	13.8 (4)	22.6 (7)	18.3 (11)	$\chi^2(1)=0.77$, p=.38
Education/employment	11.8 (4)	13.0 (3)	12.3 (7)	FET, p=1.00
Peer relations	20.6 (7)	44.4 (12)	31.1 (19)	$\chi^2(1)=3.99$, p=.05
Substance abuse	34.5 (10)	40.0 (8)	36.7 (18)	$\chi^2(1)=0.16$, p=.69
Leisure/recreation	20.7 (6)	26.3 (5)	22.9 (11)	FET, p=.73
Personality/behaviour	51.5 (17)	62.5 (20)	56.9 (37)	$\chi^2(1)=0.80$, p=.37
Attitudes/orientation	11.1 (2)	12.5 (2)	11.8 (4)	FET, p=1.00

Question 1.d. Do Indigenous and non-Indigenous youth differ in recidivism rates?

As shown in Table 1, the recidivism rate for the whole sample was 68.6%, with 70.3% of Indigenous youth reoffending and 66.7% of non-Indigenous youth reoffending, $\chi^2(1, N = 70) = .11$, $p = .75$. For those youth who did reoffend, time to reoffence did not significantly differ by Indigenous status.

Quantitative Findings – Predictive Analyses

There is some evidence for gender differences in risk, need, and responsivity among justice-involved youth (Plattner et al., 2009; Vitopoulos, Peterson-Badali, & Skilling, 2012; Woodson, Hives, & Sanders-Phillips, 2010). As a result, it is important to examine possible gender effects in analyses. However, due to the small number of females in the sample (especially when broken down by Indigenous/non-Indigenous group; see Table 1) it was not possible to include gender as a variable alongside Indigenous group in the analyses. In order to go some distance in addressing the question of gender differences, analyses were conducted with the sample as a whole as well as with males only in order to examine whether results differed with and without females included. Using total risk and proportion match as predictors, logistic

regressions with recidivism as the outcome and survival analysis with time to reoffence as the outcome were conducted. The pattern of results was the same with or without the females in the sample: significant findings remained significant and non-significant findings remained non-significant. The analyses presented below are based on the full sample.

Question 2.a. Does YLS/CMI level of risk predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

YLS/CMI total risk scores were significantly higher for youth who reoffended ($M = 20.52$, $SD = 6.63$) than for those who did not ($M = 15.38$, $SD = 8.28$), $t(67) = 2.74$, $p = .01$. To test the YLS/CMI's predictive validity for the sample as a whole, a Receiver Operating Characteristic (ROC) analysis was conducted. The area under the curve (AUC) statistic was significant (0.68 , $p = .02$), indicating that the model classified the sample significantly better than by chance; at a 95% confidence interval (CI), there was a 68% probability that a randomly selected recidivist would obtain a higher YLS/CMI score than a randomly selected non-recidivist (CI range = 0.53-0.83).

In order to examine whether the relationship between total risk and reoffence differs depending on Indigenous vs. non-Indigenous status, a hierarchical logistic regression was conducted with total YLS/CMI risk score entered at Step 1, Indigenous status entered at Step 2, and the interaction of risk score with Indigenous status entered at Step 3. Total risk score was the only significant predictor in the model, Wald $\chi^2(1) = 4.55$, $p = .03$, odds ratio (OR) = .89, 95% CI = .80 to .99; for every one unit increase on the YLS/CMI, the odds of reoffending increased by 9%. Indigenous status did not contribute significantly to the model, Wald $\chi^2(1) = .24$, $p = .63$, and neither did the Indigenous status by total risk score interaction term, Wald $\chi^2(1) = .25$, $p = .62$.

Question 2.b. Does the extent to which youths' identified criminogenic needs are addressed ('service match') predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

There was a trend such that the overall proportion of identified criminogenic needs that were 'matched' during youths' sentences was higher for youth who did not reoffend ($M = 40\%$, $SD = 32\%$) than for those who did ($M = 27\%$, $SD = 27\%$), $t(67) = -1.73$, $p = .09$.

In order to examine whether service matching predicted reoffending after taking youths' risk scores into account, a hierarchical logistic regression was conducted, with youths' criminal history scores² entered at Step 1, Indigenous status and proportion service match scores entered at Step 2, and the interaction of proportion match with Indigenous status entered at Step 3. The overall model was not significant at any of the steps, $\chi^2(4) = 6.18$, $p = .19$, and none of the individual predictors were significant: proportion match, Wald $\chi^2(1) = 1.88$, $p = .17$, Indigenous status, Wald $\chi^2(1) = .20$, $p = .65$, and the interaction term, Wald $\chi^2(1) = .82$, $p = .37$.

Question 2.c. Do YLS/CMI level of risk and match to services predict time to reoffence for Indigenous and non-Indigenous youth and does this differ between groups?

The other dependent variable of interest in the present study was how long youth who eventually reoffended ($n = 48$) were able to remain in the community. One would expect that youth who scored higher on the YLS/CMI (i.e., higher risk youth) would spend a shorter amount of time on probation before reoffending. Due to the non-parametric distribution of the data representing days in the community for the whole sample ($p < .005$, Shapiro-Wilk Test) and for both groups ($p < .05$, Shapiro-Wilk Test), a Spearman's rank-order correlation was used for these

² Criminal History was used instead of the YLS/CMI total risk score because the proportion match variable entered in step two of the analysis is derived from the youth's YLS-identified criminogenic needs. The clinician recommendations used to calculate proportion match overlap with the domain scores that constitute the YLS total score; inclusion of the latter in the model would thus take away from the variance explained by proportion match. Criminal History was deemed an appropriate substitute measure of risk due to its strong correlation with total YLS/CMI risk scores in this sample, $r(69) = .58$, $p < .0001$.

analyses. For the sample in its entirety, the relationship between YLS/CMI total score and time in the community was not significant, ($r_s = -.20, n = 47, p = .18$). Similarly, at the group level, total risk and time in the community were not significantly associated for Indigenous youth ($r_s = -.29, n = 25, p = .17$) or non-Indigenous youth ($r_s = -.13, n = 22, p = .57$).

With respect to match to services, it was anticipated that a higher proportion of needs matched would be associated with a longer period before reoffence. A Spearman's rank-order correlation demonstrated a robust positive correlation, ($r_s = .50, n = 47, p < .0001$), such that as proportion match increased, so did the time that a youth lasted in the community. Group comparison revealed that this effect was due to the Indigenous youth in the sample, for whom this positive relationship was strong and significant, ($r_s = .64, n = 25, p < .005$). Although proportion match was not significantly associated with time in the community for non-Indigenous youth, the data showed a trend in this direction ($r_s = .37, n = 22, p = .09$).

A Cox regression was used to examine the relationship between the predictor variables – criminal history, match to services, and Indigenous status – and time to reoffence for the whole sample. Youths' criminal history scores were entered in Step 1 to control for risk. The results of this analysis indicated that a youth's risk score did not significantly predict time to reoffence, $\chi^2(1, N = 68) = 0.91, p = .34$. However, adding proportion match resulted in a statistically significant model, $\chi^2(1) = 4.57, p = .03$, such that for every 'unit' increase in match, a youth's likelihood of reoffending decreased by 77.7%. After controlling for risk and match, inclusion of Indigenous status did not add any significant prediction to the model, $\chi^2(1) = 0.05, p = .83$.

Given that risk level did not directly predict time in the community, it was hypothesized that match to services could be moderating this relationship (i.e., the impact of risk would vary as a function of the proportion of needs matched). It was postulated that match could be acting as

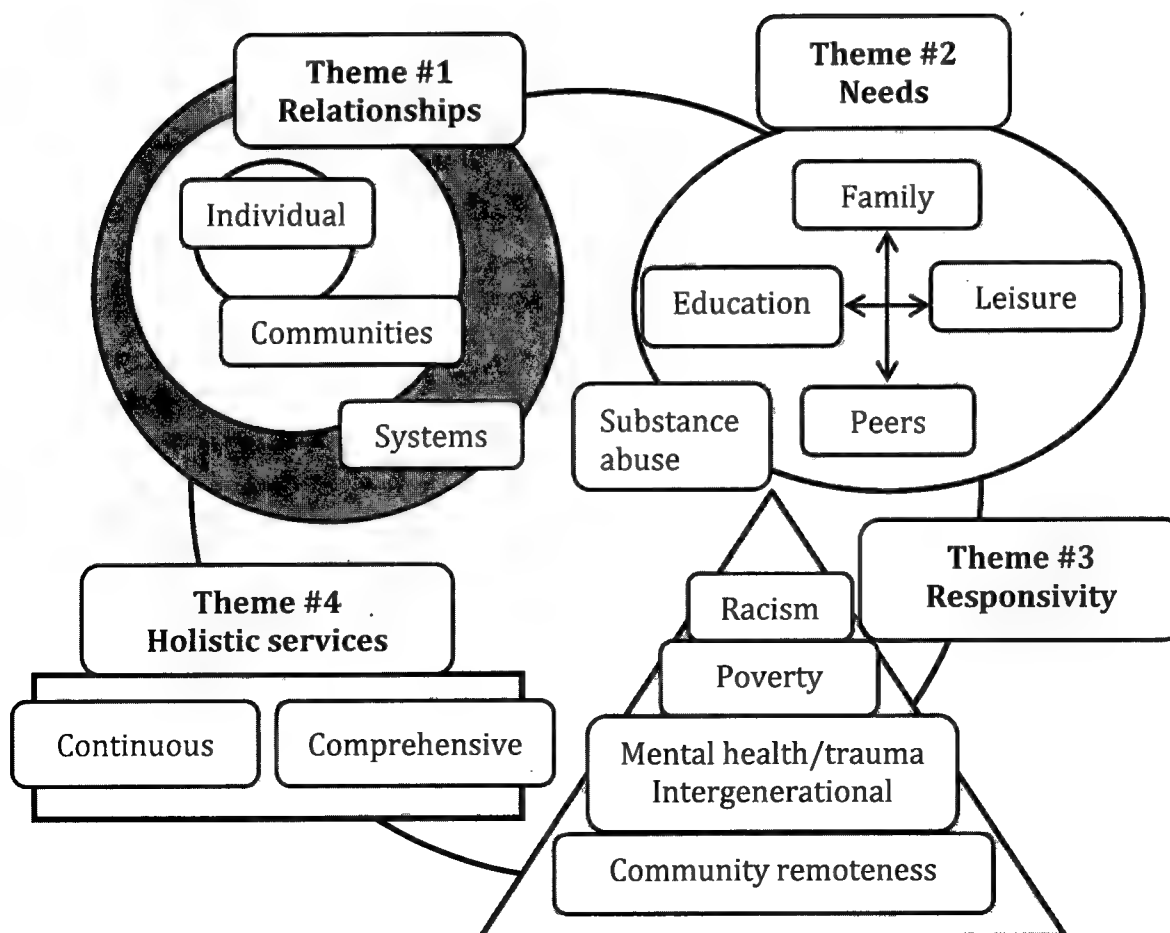
a 'buffer': at high levels of match, risk would not be significantly related to time to reoffence, while at low levels of match, risk would have greater bearing on a youth's survival time.

However, moderated multiple regression analyses were not significant: in the whole sample ($\Delta R^2 = .00$, $F(1, 43) = .05$, $p = .83$), the Indigenous group alone ($\Delta R^2 = .02$, $F(1, 21) = .07$, $p = .80$), and the non-Indigenous group alone ($\Delta R^2 = .02$, $F(1, 18) = .08$, $p = .78$), including proportion of needs matched as a moderator did not account for a significant amount of variance in time to reoffence.

Qualitative Findings

The following four themes emerged from our interviews with justice system personnel and community agency workers (see Figure 1).

Figure 1 – Study Themes



Theme one: Relationships

All eight participants talked about the importance of relationships to the functioning of the justice system in general, to the effectiveness of their work in particular, and to the outcomes of individual youth.

Beginning with relationships at a systems level, seven of the interviewees discussed the relationship between Indigenous and non-Indigenous concepts and instruments of justice. Specifically, they described how Indigenous knowledge and traditions should be and are integrated into mainstream judicial institutions. From a philosophical perspective, this included questioning the purpose and utility of incarceration and examining the goals of probation; from a practical perspective, this included holding restorative justice circles at the courthouse and

engaging in cultural teachings at the custody facilities. Participants observed that Indigenous practices benefit Indigenous and non-Indigenous individuals alike. As Respondent 3 put it, *“Things need to be inclusive rather than segregated. I don’t think there needs to be a mainstream OR a traditional. I feel like we’re always fighting this Us against Them. But it should be that traditional elements are infused into mainstream. I mean there are so many things that everyone would benefit from – like the seven teachings.”* Community agency workers expressed that they invest significant effort in raising awareness and uptake of Indigenous-specific services; justice system personnel showed a corresponding knowledge of and willingness to refer to these services.

Another critical relationship, raised by four participants, is the one between justice system representatives and Indigenous communities. Community members were seen as holders of knowledge, whose understanding of the histories, resources, and struggles within their communities could inform not only how to help individual youth, but also how to make diversion and probation services more culturally responsive. Two of the interviewees shared how being physically present in the communities is fundamental for learning and forming meaningful ties: *“I was flying into very remote communities and I had to develop trust... There was nothing like sitting on someone’s porch and just talking”* (Respondent 6). These participants also emphasized the diversity among communities that would render any blanket approach to the administration of justice insensitive and ineffective. As Respondent 1 shared, *“Our native colleagues and scholars say, ‘I can speak for me and maybe for my community – but I can’t speak for any other community.’”*

All of the probation officers and community agency workers spoke of the relationships that youth forge with them and other service providers. A strong connection was instrumental to

engagement in services: *“Biggest part of my job is building a relation, connect[ing] with them; how can I show them that I genuinely care about them getting better and healing and that it’s not just a referral I got, I want them to be a successful member of my community”* (Respondent 3).

Interviewees talked about meeting youth where they are, both metaphorically, by addressing needs that youth are ready to work on, and literally, by being with them in their own spaces out in the community. The words “person-centred,” “supportive,” and “strengths-based” were used to describe the prevailing mode of interaction. At the same time, participants stated that they bring direction and structure to the relationship; consistency was identified as particularly important for justice-involved youth, whose past experiences are often marked by unstable relationships and unpredictable living situations. Just as diversity was stressed at a community level, so was it underscored at the individual level: *“Each kid is very different. Everyone is unique, and I treat them like that. There’s no cookie cutter approach for me”* (Respondent 6).

One service provider suggested that in Indigenous-specific services, the capacity for individual relationship-building is even greater: compared to mainstream programs, which strive to efficiently target a particular need, Indigenous programs invest time in getting to know the whole person. Relatedly, a second participant noted that Indigenous-specific services delve more deeply into personal issues, requiring greater commitment and involvement from the youth. This is consistent with the observation of a third participant that culturally sensitive services also allow Indigenous youth to cultivate better relationships with themselves. Through exposure to Indigenous teachings, traditions, and role models, youth can begin or continue to explore their own Indigeneity and their place within Indigenous and non-Indigenous worlds.

Theme two: Needs

Participants touched on five areas of criminogenic need, noting ways in which some of these domains are especially problematic for Indigenous youth. Every interviewee mentioned family support as a (and perhaps the most) crucial factor in determining any youth's trajectory through the system. Respondent 3 summed it up this way: *"I would say the biggest thing is that support system. If they have buy-in from parents, teachers, and they can connect with someone—an Elder, a healthy sibling, peers—someone who can continually support them over time, the ones who are successful are those who find that support."* Two people identified family risk factors that they often find for Indigenous youth, such as parental FASD or lack of parenting skills, which they connected to longstanding issues stemming from colonization.

For four participants, education was a critical area requiring intervention. Two interviewees mentioned that they see Indigenous youth struggling to see the value of the education system – perhaps due to the legacy of residential schools – resulting in poor motivation and engagement. For two other interviewees, the school system itself was a barrier, unable to accommodate the learning needs of justice-involved youth in general, who often struggle academically: *"The education system works as a silo. It doesn't work with us. Most of our kids are not your average students... We need trade schools... For me, a kid who's gained some skills and knowledge is going to be a better member of the community"* (Respondent 7).

Four interviewees flagged ongoing negative peer association as a defining feature of youth, including Indigenous youth, who remain in the system. One participant perceived Indigenous youth as feeling caught between their Indigenous and non-Indigenous peers, uncertain where to form friendships. Two participants described gang membership as the logical endpoint for Indigenous youth with no family or other support network, illustrating how the criminogenic needs can intersect.

Three participants mentioned constructive use of leisure time as a protective factor, although not as a pressing area of need, contrary to our quantitative findings. One interviewee pointed out that in remote communities with no recreational activities, boredom leads youth into trouble. However, discussion of leisure time again revealed the extent to which the criminogenic needs are interconnected. As Respondent 3 put it, *“if the education system is pushing them out, where do you think they’ll end up? The justice system picks them up. What else will they do with their time?”*

All eight participants identified substance abuse as a pervasive problem for all justice-involved youth, placing it alongside lack of social support as a major predictor of continued involvement with the courts: *“if they haven’t conquered that yet, then that will keep them on a path that will keep them in the system”* (Respondent 7). While one interviewee observed chronic substance abuse at younger ages among Indigenous youth, the overall consensus was that this is a challenge across the board.

Theme three: Responsivity

References to “underlying” issues or problems came up in three interviews, referring to the factors influencing youths’ completion of diversion and probation programming. (In the RNR model, these would be responsivity factors.) For four participants, significant mental health issues were a concern, particularly for Indigenous youth. Three participants mentioned trauma as another crucial consideration, two speaking specifically of Indigenous youth. One person explicitly referred to intergenerational trauma as an added layer of need for Indigenous youth, while two other interviewees stressed the importance of taking intergenerational context into account: *“I recognize this more and more, but a lot of these issues are historic family issues, it’s generational. I can think of one family where I’ve had five of their children [as clients]. I now*

have grandchildren. Children of children of children that I had when I first started" (Respondent 7).

Half of participants saw poverty as barrier to service for many youth, with those from remote reserves being particularly disadvantaged. Financial insecurity, in turn, restricts housing options, with youth getting stuck in low-income neighbourhoods, where they are exposed to other risks, or couch-surfing between family members and friends, in which case they are harder to track down for programming. As Respondent 3 explained, "*[There is a] two-year waitlist to get a house. So even if you have issues that come up and you want to move and better yourself, it's next to impossible.*" For three interviewees, limited access to transportation was another correlate of poverty and another barrier to treatment, although one individual indicated that organizations in Thunder Bay address this proactively by providing youth with rides and bus tickets. One person pointed out that, as a result of coming from disadvantaged and dysfunctional environments, youth lack basic, practical skills for daily functioning and that there is a need for life skills programming. Indeed, this was a common recommendation in the court assessments for this sample. Taxman and colleagues propose that mental health, socioeconomic status, housing, transportation, and life skills can be conceptualized as *systemic* responsivity factors that influence individuals' response to intervention; termed 'destabilizers,' these variables determine the extent to which a person can attend and engage in treatment, thereby indirectly affecting recidivism (Taxman, 2014; Taxman & Caudy, 2015).

Two participants stated that Indigenous youth face the additional obstacle of racism, which magnifies the stigma they already face as justice-involved individuals.

Six interviewees described the unique circumstances and needs of Indigenous youth from remote reserves who come to Thunder Bay, usually to attend high school. Some described these

youth as having a hard time adjusting to city life, trying to physically and socially navigate an unfamiliar space with unfamiliar rules; this geographic and psychological dislocation makes them susceptible to involvement with the law: *“That’s something that has really struck me—the kids from the far north who migrate into the cities are the most vulnerable that we see here, the most likely to be in the justice system”* (Respondent 5). If youths’ families cannot afford to come with them to Thunder Bay, they are placed with boarding families whom they may not know. If youth are from ‘dry’ communities, they can become overwhelmed by the easy access to substances in the city. On-reserve education does not necessarily prepare youth for provincial public high school, resulting in academic difficulties and failure. With these examples, participants demonstrated how an Indigenous youth’s community of origin can have implications for multiple criminogenic domains and put them at risk for repeated offending.

Theme four: Holistic service

The issue of how to address these difficulties brings us back to what participants said about the benefits of Indigenous teachings and services: a holistic approach. From the perspectives of four participants, diversion and probation programming needs to be comprehensive and continuous: it sees the youth as embedded in a context, involving members of the youth’s family and community in treatment, and it goes beyond crisis management to include follow-up care. To quote Respondent 3, *“You can’t take a youth away from a bad environment and work with them and then send them back... We look at the family and the situation around them as being very important.”* Participants described this kind of ecological, wrap-around service as implemented in some cases, but in need of more widespread application.

Discussion

Risk and Criminogenic Needs in Indigenous and non-Indigenous Youth

Indigenous and non-Indigenous youth did not significantly differ in terms of overall risk to reoffend, which runs contrary to previous findings that Indigenous youth score significantly higher on aggregate risk (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012). When examined at the domain level, Indigenous youth in the present study did score significantly higher on risk in the domains of peer association and leisure time, which is consistent with prior research (Olver, Stockdale, & Wong, 2012; Jung & Rawana, 1999). Whether they reside in small, remote communities or in larger towns and cities, Indigenous youths' social participation (which relates both to peer affiliations and opportunities for prosocial leisure activities) may be limited. In the wake of seven deaths of First Nations youth in Thunder Bay, the Ontario First Nations Young Peoples Council conducted a survey of over 100 Indigenous youth from across Ontario. Youth reported that they found it difficult to make friends off-reserve when they left to attend school (due to racism), while at the same time losing touch with friends who stayed on-reserve (OFNYPC, 2016). Youth in Winnipeg, Manitoba reported similar difficulties making friends with non-Indigenous peers, resulting in an insular experience of urban community (Belanger et al., 2003). Alluding to this very phenomenon, one of our interviewees described Indigenous youth as "*caught in the middle*" between Indigenous and non-Indigenous communities. Moreover, urban Indigenous youth have been described as a highly mobile population, who may move within cities (as well as between cities and their home communities) multiple times for school, work, health, and other socioeconomically motivated reasons (Baskin, 2007; Brown et al., 2005). This has clear implications for their ability to sustain social networks and recreational commitments. Indeed, one of the probation officers interviewed

for the present study identified such transience as a barrier to getting Indigenous youth connected to services.

Although both groups in our sample had comparable numbers of criminogenic needs overall, Indigenous youth were significantly more likely to have clinician-identified needs in the education and leisure domains, a finding that was not a function of where they lived (i.e., urban vs. rural communities). Virtually all Indigenous youth in our sample (94.6%) had needs in the education domain and 81.1% had needs in the leisure domain. These figures reflect broader challenges in schooling and recreation facing Indigenous youth across the country. Indeed, the education gap between Indigenous and non-Indigenous Canadians has been described as one of the nation's greatest public policy challenges (Richards, 2008). For First Nations and Metis individuals living off-reserve, 60% of men and 75% of women between the ages of 20 and 24 have a high school diploma; for non-Indigenous Canadians, this figure ranges from 84-91%, depending on the province (Richards, 2008). For the on-reserve Indigenous population, the divide is even more pronounced, with only 35.3% of individuals completing high school (Rosenbluth & Drummond, 2013).

With regard to leisure needs, research conducted with Indigenous youth across Canada has identified numerous barriers to participating in organized recreational activity, including lack of infrastructure and programming, limited access to transportation, pervasive underfunding, and continued racism (Brown et al., 2005; Mason & Koehli, 2012). Interviews conducted by one of the authors of the present study (Lockwood) in remote reserves in Ontario found similar themes: youth were frustrated by the lack of facilities and activities in their communities, citing boredom as a major obstacle to health and wellness (Mamow Ki Ken Da Ma Win: Searching Together, 2014a, 2014b).

Addressing Identified Needs in Indigenous and non-Indigenous Youth

Overall, number and proportion of criminogenic needs matched to services did not differ between groups. On average, the youth in this sample had about one third of their needs met ($M = 31.3\%$, $SD = 29.3\%$), a proportion comparable to that found in other studies (Peterson-Badali et al., 2015; Vieira et al., 2009). However, examining needs within the individual criminogenic need domains revealed that Indigenous youth were significantly less likely to have their peer association needs met; while 95% of Indigenous youth had a need identified in this domain, only 21% had it adequately addressed. As proposed above, it is possible that the social isolation experienced by Indigenous youth is not as easily resolved as for non-Indigenous youth. Traditional methods for addressing peer-related needs, such as encouraging school attendance or extra-curricular pursuits, may be hindered by the racism (Mason & Koehli, 2012; OFNYP, 2016) and poverty (Abele & Delic, 2014; Latimer & Foss, 2004; Wilson & MacDonald, 2010) that Indigenous youth are likely to experience. Gang membership among Indigenous youth is likewise intertwined with issues of discrimination and disadvantage (Ogilvie & Eggleton, 2013; Sinclair & Grekul, 2012; Totten, 2009).

Reoffending in Indigenous and non-Indigenous Youth

Finally, recidivism rates did not differ between the two groups, even when controlling for criminal history. This is not consistent with previously published work indicating that Indigenous youth reoffend at significantly higher rates than their non-Indigenous peers (Luong & Wormith, 2011; Rojas & Gretton, 2007).

Predicting Reoffending in Indigenous and Non-Indigenous Youth

First, we discovered significant agreement between clinicians and probation officers when assessing overall and domain-specific risk. This suggests that service providers and justice

system personnel are using the instrument in similar ways, which is helpful for interagency and interdisciplinary collaboration.

Exploration of the YLS/CMI's predictive validity showed that the total risk score reliably distinguished recidivists from non-recidivists in the sample as a whole and predicted recidivism in Indigenous and non-Indigenous youth at comparable rates. These results are consistent with findings from the literature that the YLS/CMI significantly predicts recidivism for Indigenous youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver et al., 2009).

Match to services did not emerge as a significant predictor of recidivism in either group. It is possible that the low baseline rates of match meant that services were not intensive enough in a sufficient number of domains to influence reoffending. On the other hand, match to services was a significant predictor of time to reoffence, even when controlling for risk. This was the case for Indigenous and non-Indigenous youth alike. This lends support to the Need Principle of the RNR framework: addressing a higher percentage of youth's identified needs with appropriate services kept youth in the community longer – an important intermediary goal of probation.

Qualitative Findings

Interviews with eight justice system personnel and community agency representatives were captured under four overarching themes. Participants highlighted the importance of cultivating relationships—between Indigenous and non-Indigenous philosophies and practices, between legal bodies and Indigenous communities, and between justice-affiliated personnel and the individual youth they serve. It was suggested that these relationships are especially beneficial for Indigenous youth because they occur within culturally tailored services that enable them to explore their identity. Interviews with three Indigenous probation clients in another Canadian

city revealed that their relationships with frontline workers made them feel supported and encouraged them to continue with programming (Finseth, 2014; Finseth & Peterson-Badali, 2015).

Interviewees identified several ways in which Indigenous youths' criminogenic needs have an added layer of complexity that can be connected to underlying social and historical factors. Lack of supervision from parents and lack of trust and investment in the education system could reflect ongoing repercussions of the residential school era; affiliation with gangs could reflect a search for both identity and family. While all of these risk factors are captured in the RNR framework (and in RNR-based measures of risk such as the YLS/CMI), these reflections suggest that they do not manifest in the same way for Indigenous and non-Indigenous youth. Similar discussions have arisen in the research literature on gender and criminogenic risk (e.g., Vitopoulos, 2016).

Respondents also described Indigenous youth from a responsivity perspective: their identified challenges could be seen as manifestations of intergenerational trauma, unfolding within an enduring context of socioeconomic disadvantage and racism. Yessine and Bonta (2009) found a similar constellation of issues in their study of chronic offending among Indigenous and non-Indigenous youth: family interaction, peer association, and substance abuse predicted persistent criminal conduct for the former group but not for the latter. The authors connected these factors to the more severe poverty in the Indigenous group, which likely precipitated the breakdown of family support and adoption of unhealthy relationship and coping choices. Findings such as these, and the information provided by our interview sample, provide possible explanations for the elevated risk in the peer and leisure domains and the identified needs in education and leisure observed in our quantitative analyses.

Given the interrelated and entrenched nature of these issues, participants championed holistic rehabilitation of justice-involved youth, with programs that can include the youth's community and that can follow the youth over time. Scholars have made similar arguments for more collectively grounded programming, which moves beyond individually oriented 'rehabilitation' towards community-based healing (Cunneen, 2011).

Limitations and Future Directions

The present study had a small sample size, which affects the generalizability of its findings. Given this caveat, and the fledgling state of research in this area in general, replication with a larger sample is required. The authors are in the process of gathering data from Ontario for this purpose. However, as pointed out by our interviewees, the diversity among Indigenous communities requires particular attention to regional variation. Replications in other parts of the country are therefore also essential.

Secondly, this study focused exclusively on criminogenic needs within the RNR framework. However, there is theoretical and qualitative scholarship suggesting that colonization has created a distinctive set of circumstances for Aboriginal individuals that are not adequately reflected in existing risk assessment measures (Hannah-Moffat, 2013; Martel et al., 2011). Factors such as disconnection from traditional culture and spirituality (Ellerby & McPherson, 2002), life on reserves (Hannah-Moffat & Maurutto, 2003), and intergenerational trauma related to attendance at residential schools (Mann, 2009) have been proposed as unique experiences influencing the lives of Aboriginal peoples, including their criminal behaviour. In the court-ordered assessments for the present sample, individual and family trauma were common treatment targets emphasized in the recommendations. Indeed, a recent study indicates that measures of family cohesion, residence on reserves, and community well-being increased the

predictive validity of the YLS/CMI for Indigenous youth (Wilson, 2016). Further investigation of additional, culturally distinct factors affecting recidivism in this population is critical.

At the same time, careful consideration – in collaboration with Indigenous researchers, practitioners, and community members – needs to be given to whether and how any such ‘culturally-specific’ factors are incorporated into assessment, case management, and intervention programs for justice-involved Indigenous youth. In particular, couching systemic problems and disadvantage affecting Indigenous youth within the language of ‘risk’ (e.g., adding new ‘risk factors’ to RNR-based assessment tools) – even if these add to the predictive accuracy of such instruments – has the appearance (if not the effect) of ‘responsibilizing’ individuals for the legacy of colonization and the many disadvantages experienced by Indigenous individuals and communities. Thus, in addition to exploring the variables that may be more potently associated with reoffending for Indigenous than non-Indigenous youth, we also need to give careful consideration to what framing of those issues is most likely to benefit youth – and to avoid doing what may seem like ‘valid’ research (or policymaking or programming) that results in additional harms. Taxman’s concept of systemic responsivity (Taxman, 2014; Taxman & Caudy, 2015) may provide a useful lens through which to consider possible culturally-specific factors

Thirdly, due to the small sample size of the qualitative portion of the present study, generalization should likewise be treated with caution. Moreover, as our interviewees emphasized, any generalization with communities as diverse as the ones they serve is problematic. Nevertheless, the interviews did indicate valuable avenues for future research. Participants shared information indicating that Indigenous youths’ criminogenic needs have additional dimensions that differentiate them from non-Indigenous clients. Unpacking ‘standard’ RNR domains of criminogenic risk (e.g., ‘family circumstances/parenting’, ‘education’, and

'peers') to understand how they may look different and operate differently for Indigenous youth is an important task for practitioners (who do this in an individualized way when they work with their clients), but also for designing policies and programs to meet youths' needs and to support rehabilitation as well as broader positive outcomes.

Participants provided anecdotal support for the efficacy of Indigenous-specific diversion programming, but evaluations of such programs are scarce. Studies of culturally tailored treatment are mostly qualitative or quasi-experimental, with incarcerated adult Indigenous samples; they reveal high levels of engagement and satisfaction among program participants (Heckbert & Turkington, 2001; Trevethan, Crutcher, & Rastin, 2002; Trevethan, Moore, & Allegri, 2005; Zellerer, 2003) but no improvement in recidivism (Trevethan et al., 2002; Trevethan et al., 2005). For Indigenous youth and adults alike, we need a better understanding of how culturally tailored services are being delivered, whether they affect recidivism, and, if so, what components of those programs are the active ingredients of change. Preliminary research suggests that Indigenous-specific programming treats the same needs identified in the RNR framework, but approaches them differently from mainstream programming (Finseth, 2014); further exploration of the extent to which culturally sensitive services overlap with restorative justice frameworks and with the RNR model is warranted.

Our interview participants also emphasized the importance of addressing systemic responsiveness variables in improving outcomes for youth; a sample of justice system personnel and service providers in Toronto, Ontario made the same point, highlighting housing, mental health, and transience as key targets of intervention for their Indigenous youth clients (Finseth, 2014; Finseth & Peterson-Badali, 2015). These consistent findings indicate the value of exploring

the impact of treating systemic responsivity factors on recidivism among Indigenous youth; to date, no quantitative investigations of this association have been conducted.

Finally, researchers need to engage with former and current probation clients themselves, to hear from their perspectives what facilitates and interferes with completing their diversion programming. Scholarship has stressed the importance of seeking out and heeding the voices of Indigenous individuals especially, given their continued marginalization (Cunneen, 2011). There are a handful of studies profiling the experiences of Indigenous youth and young adults with gang membership (Grekul & LaBoucane-Benson, 2009), community reintegration (Brown et al., 2005), custody (Latimer & Foss, 2004), and culturally-specific diversion services (Finseth, 2014; Finseth & Peterson-Badali, 2015), but, to our knowledge, no comprehensive discussion of the diversion process and outcomes. Although Indigenous youth were not included in the present study, the authors acknowledge the necessity of their involvement in any diversion program planning, delivery, and evaluation. Building relationships with and seeking the views of Indigenous youth will be a key element of the follow-up work to this research.

Summary and Conclusion

In the present sample of youth assessed in Thunder Bay, Ontario, we found that Indigenous youth were not assessed as at greater risk to reoffend than non-Indigenous youth, contrary to prior research, although they did score as higher risk on indicators of peer relations and leisure pursuits. Indigenous youth were also significantly more likely to have needs identified in the education and leisure domains. While this does not constitute a unique need profile, since it did not result in a unique offending pattern, it does point to areas where more services are required. Indeed, Indigenous youth were significantly less likely to have their peer-

related needs met, which indicates that this is one area of intervention that requires especially careful consideration in this population. However, it is also worth noting that Indigenous and non-Indigenous youth did not significantly differ in *overall* match to services. In addition, they did not differ in recidivism rates, which is an encouraging outcome given that previous studies have found higher recidivism rates among Indigenous youth (Luong & Wormith, 2011; Rojas & Gretton, 2007).

The YLS/CMI predicted recidivism equally well for Indigenous and non-Indigenous youth, providing further evidence of the instrument's cross-cultural predictive validity. However, it remains to be seen whether adding culturally relevant variables (such as intergenerational trauma or community well-being) will improve the accuracy and sensitivity of the measure. Match to services did not predict recidivism for either group, although it did significantly predict time to reoffence for all youth in the sample: youth who had more of their needs matched lasted longer without incurring new charges. This illustrates the value of addressing criminogenic needs through active case management and referral to services for all justice-involved youth.

Frontline workers from the justice system and the community shared insights into the pivotal role of relationships, at institutional and individual levels, in improving outcomes for Indigenous youth. They noted that collaboration with Indigenous communities, as sites of knowledge and leadership, can generate localized and more effective forms of restorative justice. They observed that the criminogenic needs in this population are complicated by systemic responsiveness factors—including poverty, trauma, and racism—that are most effectively addressed by long-term, holistic treatment.

In addition to replication of the present study with larger and cross-national samples, more information is needed about a) why and in what ways education, leisure, and peers are such

high areas of need for Indigenous youth; b) how Indigenous youth are and can be more effectively engaged in services, especially in those high-intensity domains and especially from the perspectives of youth themselves; c) whether treating systemic responsivity variables improves outcomes for Indigenous youth; d) what culturally specific factors can contribute to assessment and prediction of risk in this population; and e) whether and how culturally specific services contribute to better outcomes for Indigenous justice-involved youth.

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³ This report belongs to Nibinamik First Nation. This information is available at the discretion of the community.

⁴ This report belongs to Neskantaga First Nation. This information is available at the discretion of the community.

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Appendix A: Description of the YLS/CMI Assessment of Risks and Needs

Domain	Description of items	Sample items
Criminal history	Conviction, custody, and probation history	a. Three or more prior convictions b. Two or more failures to comply
Family	Relationship, supervision, and parenting difficulties	a. Inappropriate discipline b. Difficulty controlling behavior
Education/employment	Attendance, achievement, and behaviour issues	a. Disruptive classroom behaviour b. Truancy
Peer relations	Presence of antisocial and absence of prosocial relationships	a. Some delinquent friends b. No/few positive friends
Substance abuse	Degree of substance abuse problems, from least to most intrusive	a. Occasional drug use b. Chronic drug use
Leisure/recreation	Lack of interests and organized pursuits	a. Limited organized activities b. Could make better use of time
Personality/behaviour	Aggression, egotism, and poor impulse and emotion regulation	a. Inflated self-esteem b. Poor frustration tolerance
Attitudes/orientation	Callousness, defiance, and antisocial beliefs	a. Actively rejecting help b. Defies authority

Berry, Rebecca

From: Palmer, Marie
Sent: 2016-Sep-01 11:10 PM
To: 'Michele Peterson-Badali'
Cc: 'Ilana Lockwood'; Lui, Karolyn; Berry, Rebecca
Subject: RE: draft final report and exec summary
Attachments: Justice Canada comments - U of T full draft final report - Lockwood Peterson-Badali (1 Sept 2016).docx

Hi Michele,

Thank you again for your draft final report and executive summary. This email is written to provide our comments in preparation for the final report, and to answer questions you raised regarding the format of the finalized document. In general, these comments address the draft final report. Some observations regarding the executive summary are noted below under Final Report Format.

General Comments

As previously indicated, we have shared the draft final report and executive summary with other colleagues at Justice Canada. We received numerous comments on how interesting and well written the report is. It has been noted that, among the important contributions this work can make, one of the strongest comes from the ability to identify risk areas for Indigenous youth, i.e. the peer and leisure domains along with culturally-specific factors.

Appreciation was noted for the report's recognition of the limitations of the RNR framework, and the fact that existing risk assessment measures do not adequately reflect research on colonization and the distinctive set of circumstances facing Aboriginal individuals. As you indicate, these include disconnection from traditional culture and spirituality as well as the impact of life on reserves and intergenerational trauma. It was observed that the report raises important considerations about the use of risk/need assessments on Aboriginal youth: whether couching systemic problems and the disadvantage affecting Indigenous youth within the language of 'risk' (even if it seems to add to the predictive accuracy of such instruments) has the appearance of "responsibilizing" individuals for the legacy of colonization and the many disadvantages experienced by Indigenous individuals and communities. There was concurrence with the report that careful consideration needs to be given to whether the framing of these issues will benefit youth and avoid doing what may seem like "valid" research that could result in additional harms.

Other comments indicated appreciation of the Study Themes resulting from the Qualitative Findings. It was noted that these themes are very similar to what we have heard from funding recipients and other justice stakeholders during Engagement Sessions the Aboriginal Justice Strategy has held in the early part of 2016. (Please see the report itself for some specific comments/suggestions on the section dealing with themes.) In reviewing the draft report, it was also noted that, although only a small sample of frontline workers were interviewed, their insights on improving outcomes for Indigenous youth were informative.

The section on Limitations and Future Directions was seen as very useful for helping to point the way to next steps. The Summary and Conclusion section distilled the study findings in a concise and intelligent manner. There was broad agreement with the report's conclusion that there is a need for more understanding of how Indigenous youth are and can be more effectively engaged in services, and whether and how culturally-specific services contribute to better outcomes for Indigenous justice-involved youth. Overall, the study is seen to provide a strong springboard for future work on justice-involved Indigenous youth in Canada. For the Aboriginal Justice Strategy, of particular importance is the reference to the need for community healing programs (and, by extension, the question of the extent to which community justice programs can promote or fit into this paradigm) as well as the need for research on culturally-specific programming.

With regard to some general suggestions about the report, other comments we received included:

- In the presentation of qualitative findings, could some further examples be given? This would help strengthen the claims about the importance or prevalence of a given theme.
- Could information be included on the ethics procedures and protections that were used in the planning and conduct of this work?
- Could Thunder Bay be identified as the study site in the Introduction or Methods?

Specific Comments

A number of specific comments have been provided, which I have inserted in relevant sections of the attached copy of the report. A few minor matters of punctuation have been included in track changes.

Final Report Format

With regard to your question about preferred format for the report, would you please provide the final report and the executive summary as separate stand-alone documents? We anticipate this will enable us to make best use of the study for purposes of dissemination and policy-related discussions. Regarding the executive summary, we appreciated the organization and formatting, including the blue text boxes which highlighted key findings, themes and action items.

Date of Submission

As a final comment, please note that I will be out of the office on annual leave after Friday, 2 September 2016, returning on Monday, 19 September 2016. With this in mind, please feel free to submit the final report on 19 September 2016, rather than 15 September 2016.

I wish you and Ilana well with completion of the final report, which we very much look forward to receiving!

With best regards,
Marie

From: Michele Peterson-Badali [mailto: [REDACTED]]
Sent: August-18-16 9:58 AM
To: Palmer, Marie <Marie.Palmer@justice.gc.ca>
Cc: 'Ilana Lockwood' [REDACTED]
Subject: RE: draft final report and exec summary

sounds great – thanks Marie!

Michele

From: Palmer, Marie [mailto:Marie.Palmer@justice.gc.ca]
Sent: August-18-16 9:56 AM
To: Michele Peterson-Badali < [REDACTED]>
Cc: 'Ilana Lockwood' < [REDACTED]>
Subject: RE: draft final report and exec summary

Thanks, Michele. We are very pleased to have received this. We look forward to reviewing it and providing you with our comments. As part of our review, we are also sharing it with other colleagues at Justice Canada, involved in youth justice issues.



I look forward to being in touch. At that time, I'll also indicate our preferences regarding the format of the finalized document.

Sincerely,
Marie

s.19(1)

Marie Palmer

Senior Policy Advisor | Regional Coordinator
Conseillère principale en matière de politique | Coordonnatrice régionale
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From: Michele Peterson-Badali [mailto: 
Sent: August-17-16 5:18 PM
To: Palmer, Marie <Marie.Palmer@justice.gc.ca>
Cc: 'Ilana Lockwood' <
Subject: draft final report and exec summary

hi Marie – attached please find our draft final report and – in a separate document – the executive summary. I've sent them in word format to facilitate editing/commenting. Once we are at the stage of producing a finalized document, would you like a pdf with several tabs – one with the executive summary and another with the full report? Another option would be to have a single document (no tabs) but we also didn't know if you might want the exec summary as a separate, stand-alone document. At any rate, for now we've sent them as two separate docs.

Happy reading! We look forward to your comments and feedback, and please feel free to get in touch if you have questions prior to finishing your review.

Sincerely,

Michele

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FOR STUDIES IN EDUCATION

The relationship between risk, criminogenic need, and recidivism
for Indigenous justice-involved youth:
A comparative, mixed-methods investigation

A report for the Aboriginal Justice Directorate
Department of Justice Canada

August 17, 2016

Ilana Lockwood, MA
and
Michele Peterson-Badali, PhD C. Psych.

Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education
University of Toronto

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Introduction

Overrepresentation of Indigenous Youth in the Justice System

The overrepresentation of Indigenous peoples in the justice system is a longstanding and ongoing issue (Jackson, 1989; Jeffries & Stenning, 2014; La Prairie, 2002; RCAP, 1996; Rudin, 2005), for Indigenous youth specifically as well (Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Leonard, Olah, & Dilworth, 1999; Milligan, 2008). In 2011, Indigenous youth represented 5.9% of Canada's youth population (Statistics Canada, 2013), and yet constituted 26% of youth admitted to the correctional system (Munch, 2012). The Truth and Reconciliation Commission of Canada identified the overrepresentation of Indigenous youth in custody as a priority issue, calling upon the federal and provincial governments to end this overrepresentation in the next ten years (TRCC, 2015).

The cause of this overrepresentation is a multifaceted and complex question. Research has explored policing practices (Comack, 2012; Linden, 2005), sentencing decisions (Rudin & Zimmerman, 2014; Welsh & Ogloff, 2008), and individual or family circumstances (Corrado, Kuehn, & Margaritescu, 2014) as potential contributing factors. However, there is consensus among researchers and practitioners in the field that the ongoing effects of colonization exert a significant influence on the lives of Indigenous youth.

The question that necessarily follows is how best to combat this pressing issue. While it is important to address the broader socio-political factors (such as racism, poverty, and poor educational opportunities) affecting Indigenous youth before they come in contact with the law, it is equally important to provide support and services to those who are already involved with the justice system, with the goal of ultimately helping them escape the cycle of reoffending.

Therefore, the goal of the present study was to explore how assessment and treatment of risk factors for recidivism are related to outcomes for Indigenous justice-involved youth.

Rehabilitation and Justice: The Risk-Need-Responsivity Model

The goal stated above aligns with the broader philosophy of rehabilitation that guides current research, policy and practice in Canadian corrections (Andrews & Bonta, 2010b). Studies have shown that the “get tough on crime” model of justice, which promotes punishment over prevention and treatment, is ineffective; it is an unsuccessful deterrent sustained at a massive economic cost and at the expense of racialized minorities (Andrews & Bonta, 2010b). The rehabilitative model of justice holds that addressing the factors that trigger and sustain involvement with the legal system can lower crime rates and, ultimately, return individuals to productive participation in society. With this aim in mind, Andrews and colleagues (Andrews, Bonta, & Hoge, 1990) developed the Risk-Need-Responsivity (RNR) model, an evidence-based and internationally applied conceptualization of criminal conduct that evaluates an individual’s risk to reoffend. RNR-based assessments inform sentencing decisions and the development and implementation of case management plans in custody and the community; in this way, the RNR model guides rehabilitation efforts at multiple points in an offender’s trajectory through the justice system.

The RNR framework posits that recidivism can be predicted and reduced by examining factors within offenders and factors within the correctional system, as well as how the two interact (Andrews, Bonta, & Hoge, 1990). The *risk principle* states that as risk to reoffend increases, so should intensity of intervention; higher risk individuals respond optimally to more intensive services, while lower risk individuals respond optimally to less intensive services (Andrews et al., 1990).

The *need principle* asserts that interventions should target individual-level characteristics that are related to offending. Therefore, criminogenic needs (strong and direct predictors of reoffending) should be the intermediate targets of change, as opposed to noncriminogenic needs (weak and/or indirect predictors of reoffending; Andrews & Bonta, 2010a). Eight criminogenic needs have been established as strong predictors of recidivism: history of criminal conduct, family circumstances and parenting, education and/or employment issues, peer relations, substance abuse, leisure and recreational activities, personality and behaviour, and antisocial attitudes and orientation. Of the eight domains, seven represent dynamic criminogenic needs while one (criminal history) is static. Dynamic needs are amenable to change and therefore potential targets of intervention; by contrast, criminal history cannot alter or be addressed through treatment (Andrews & Bonta, 2010a).

Finally, the *responsivity principle* holds that, in order to optimize effectiveness of services directed at criminogenic needs, interventions should be evidence-based (general responsivity principle) and tailored to individual traits and circumstances (specific responsivity principle; Bonta, 1995).

The Relationship between Risk, Need, and Recidivism for Indigenous Youth

The widespread use of risk assessment instruments that may not accurately reflect the risk profile and treatment needs of Indigenous youth has serious implications. On one hand, critical criminologists argue that higher risk scores for Indigenous youth (and adults) are a reflection of the correctional justice system's tendency to 'responsibilize' individuals for systemic social problems and disadvantage (e.g., poverty, lack of educational opportunities and supports for healthy development). The argument continues that 'standard' risk instruments, developed and normed largely with Caucasian males, are products of and therefore perpetuate

this systemic oppression (Hannah-Moffat, 2013; Martel, Brassard, & Jacoud, 2011). As a result, Indigenous offenders are subjected to harsher (lengthier and more stringent) sentencing conditions than non-Indigenous offenders. On the other hand, research cited below has found that risk assessment tools *underreport* reoffending in Indigenous individuals assessed as at 'low risk' to reoffend (Wilson, 2016; Wilson & Gutierrez, 2014), suggesting that there may be other factors not captured by existing measures that, if left unaddressed, will perpetuate criminal behaviour. A third consideration is that if certain criminogenic needs do not predict offending behaviour for Indigenous youth, then significant resources are being invested in areas that will not necessarily improve outcomes. For these reasons, it is imperative to continue to examine the extent to which risk factors identified in the RNR model apply to Indigenous youth.

Although the RNR model is highly influential within Canadian corrections (Hannah-Moffat & Maurutto, 2003; Ogloff & Davis, 2004), research on its applicability to Indigenous youth is scarce. The small body of literature to date indicates that Indigenous youth have significantly higher total risk scores (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012) and higher recidivism rates (Luong & Wormith, 2011; Rojas & Gretton, 2007) than non-Indigenous youth. Compared to their non-Indigenous peers, Indigenous youth have been found to score higher on the specific risk domains of peers, substance use, and leisure/recreation (Jung & Rawana, 1999; Olver et al., 2012), as well as criminal history and education (Olver et al., 2012). However, the presence of higher scores in one group compared to another on a given variable does not imply that the variable is a more potent predictor of outcome (e.g., reoffending) in one group than another; in other words, the fact that a particular 'risk factor' is more prevalent or acute in one group does not tell us about whether that risk factor predicts outcome equally well in both groups.

Turning to studies that have examined risk prediction, research to date indicates that risk assessment measures significantly predict recidivism for Indigenous justice-involved youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver, Stockdale, & Wormith, 2009), although there is evidence that they are *less predictive* of reoffending than for non-Indigenous youth (Luong & Wormith, 2011). Indeed, one recent study reported that the risk assessment *underestimated* reoffending in low and moderate risk Indigenous youth (Wilson, 2016). A similar pattern emerges in studies of Indigenous adults and youth, where measures significantly predict recidivism, but some scales – criminal history, antisocial attitude, and substance use – have lower predictive validity for Indigenous individuals (Gutierrez, Wilson, Rugge, & Bonta, 2013) and aggregate risk scores underestimate recidivism for Indigenous individuals classified as low risk (Wilson & Gutierrez, 2014).

There is preliminary evidence suggesting that there are factors outside the central eight criminogenic needs that uniquely define justice-involved Indigenous youth. In a sample of Indigenous adults and youth, history of victimization and emotional problems emerged as significant predictors of recidivism (Gutierrez et al., 2013). In a sample of Indigenous youth, spiritual support from a family member or Elder significantly predicted general recidivism, while spiritual support along with residence on reserve and low community-wellbeing predicted violent recidivism (Wilson, 2016).

Commented [PM1]: It has been asked if you would please clarify: is this still talking about risk factors or implying protective factors too?

From this small body of literature, it is not yet clear whether Indigenous justice-involved youth have a distinct risk profile or whether risk assessment measures have equal predictive validity for Indigenous and non-Indigenous youth. Moreover, while it had been demonstrated that receiving intervention targeted at criminogenic needs predicts and reduces recidivism (Peterson-Badali, Skilling, & Haqanee, 2015; Vieira, Peterson-Badali, & Skilling, 2009),

providing strong support for the rehabilitative efficacy of the RNR model, there is no research to date on whether this relationship holds for Indigenous youth. The present study aimed to attenuate the knowledge gaps around these important questions.

The authors adopted a mixed-methods approach, pairing secondary data analysis with firsthand accounts gathered from those working directly with justice-involved youth. It was reasoned that a qualitative component would complement and support interpretation of the quantitative findings. Moreover, frontline workers possess expert knowledge and insight that is not captured by quantitative instruments. For example, in a study examining how probation officers conceptualize and address criminogenic needs, participants revealed that they directly target needs that can indirectly lead to improvement in other domains (e.g., enforcing school attendance to ameliorate use of leisure time and choice of peers); a high impact need was thus determined based on its 'spillover' effect and not necessarily on the results of a formal risk assessment (Haqanee, Peterson-Badali, & Skilling, 2015).

The overall objective of the present study was to examine outcomes for Indigenous justice-involved youth compared to their non-Indigenous peers by exploring how risk levels, criminogenic needs, and addressing identified needs through probation case management and referral to services related to recidivism in these groups. Within this overall objective, the study addressed three core research questions: 1) Determine whether Indigenous and non-Indigenous youth differ significantly in terms of: level of risk, number or type of criminogenic needs, extent to which identified needs are addressed through service ('service match'), and rates of recidivism; 2) Ascertain to what extent the variables of risk and service match predict recidivism for Indigenous and non-Indigenous youth and whether they differentially predict recidivism for these two groups; and 3) Establish whether these quantitative measures are consistent with the

qualitative experiences of justice system service providers. In answering these questions, this paper contributes to our understanding of whether and how the prevailing framework for assessing and managing risk applies in theory and works in practice for Indigenous youth.

Method

Quantitative Analysis

Sample

Data were obtained from the records of 70 youth (37 Indigenous, 33 non-Indigenous) who had been charged with a criminal offense and underwent a court-ordered assessment for sentencing purposes at a children's mental health center in northern Ontario, Canada. Table 1 presents demographic and offence information broken down by Indigenous/non-Indigenous status.

Consistent with overall gender differences observed in the youth justice system, there were more males than females in each group, although the proportions did not differ significantly. Due to the small number of females in the sample – particularly when broken down by Indigenous status, the primary variable of interest – gender was not included as a variable in the analyses. Testing revealed no significant differences between males and females on total risk score, $t(45) = -0.78, p = .44$, number of needs, $t(68) = -0.73, p = .47$, proportion of needs matched to services, $t(67) = 0.01, p = 1.00$, or recidivism, $\chi^2(1, N = 70) = 1.70, p = .19$.

Because scarcity of services in remote areas has been well documented (Nuffield, 2003), information on place of residence was also gathered. As Table 1 shows, place of residence was overwhelmingly urban for the non-Indigenous group, while almost half of the Indigenous youth lived in rural areas (including isolated reserves).

Commented [PM2]: Some commentators noted the discussion of data tells the reader more about who was assessed than what was assessed. Would you please clarify: were these case files? How did you access them? What did they include? How were they selected? What region, or at least what are some of the characteristics of the area? What did you do with them?

Table 1 – Demographic and offence information by Indigenous status

Variable	Indigenous	Non-Indigenous	Total	t-test/ χ^2 /FET
Age (mean in years)	15.54	15.30	15.43	$t=-0.73, p=.47$
% Gender (n in brackets)				
Male	67.6 (25)	75.8 (25)	71.4 (50)	
Female	32.4 (12)	24.2 (8)	28.6 (20)	
% Residence (n in brackets)				$\chi^2(1)=13.00, p<0.0001$
Urban	51.4 (19)	90.9 (30)	70.0 (49)	
Rural	48.6 (18)	9.1 (3)	30.0 (21)	
% Disposition (n in brackets)				<i>Fisher's Exact Test, p=.41</i>
Secure custody	22.2 (8) ¹	21.2 (7)	21.7 (15)	
Open custody	16.7 (6)	6.1 (2)	11.6 (8)	
Probation	61.1 (22)	72.7 (24)	66.7 (46)	
% Index Offense (n in brackets)				<i>Fisher's Exact Test, p=.34</i>
Administrative	18.9 (7)	18.2 (6)	18.6 (13)	
Non-violent	16.2 (6)	33.3 (11)	24.3 (17)	
Violent (non-sexual)	54.1 (20)	36.4 (12)	45.7 (32)	
Sexual	10.8 (4)	12.1 (4)	11.4 (8)	
% Recidivated (n in brackets)	70.3 (26)	66.7 (22)	68.6 (48)	$\chi^2(1)=0.11, p=.75$
Mean Days to Recidivism for youth who reoffended (n=48)	248.24	297.14	271.13	$t=0.98 p=.33$
% Reoffence Type (n in brackets)				$\chi^2(2)=2.45, p=.30$
Administrative	23.1 (6)	22.7 (5)	22.9 (11)	
Non-violent	34.6 (9)	54.6 (12)	43.8 (21)	
Violent (non-sexual)	42.3 (11)	22.7 (5)	33.3 (16)	
Sexual	0.0 (0)	0.0 (0)	0.0 (0)	

¹ One Indigenous youth was sentenced to five days of secure custody as a stopgap measure while awaiting admission to a mental health facility. This individual was excluded from disposition analyses, leaving a total sample size of n = 69.

Youth were categorised according to the most serious offence for which they were convicted at the disposition relating to the court-ordered assessment. Offences were classified as administration of justice (e.g. failure to comply, escape from custody), nonviolent (e.g. damage to property, public intoxication), violent nonsexual (e.g. robbery, assault), and sexual (e.g. sexual interference, sexual assault). While a greater proportion of Indigenous youth were convicted of violent nonsexual offences and, conversely, a greater proportion of non-Indigenous youth were convicted of nonviolent offences, the difference was not statistically significant ($p = .34$, two-tailed Fisher's exact test). While the same pattern held for reoffence convictions, the difference was again not statistically significant (see Table 1).

Commented [PM3]: Commentators noted that public intoxication is not a criminal offence. Would you please clarify the reference here? Do the offences include provincial offences as well as criminal offences?

All youth received a probation disposition, either immediately following their sentencing (66.7%, $N = 46$) or after a term of secure (21.7%, $N = 15$) or open (11.6%, $N = 8$) custody. We were interested specifically in the community portion of the youths' disposition, when they were under the case management of a probation officer. This involved time spent in open custody and in the community.

Measures

Risk. Youths' risk to reoffend was assessed with the Youth Level of Service Inventory/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011). A standardized and normed instrument derived directly from the RNR framework, the YLS/CMI has moderate to strong internal consistency and interrater reliability (Schmidt, Hoge, & Gomes, 2005) as well as concurrent validity with the Child Behavior Checklist (Schmidt et al., 2005) and Youth Self Report (Skilling & Sorge, 2014), which are widely-used measures of behavior problems in children and adolescents.

To complete the YLS/CMI, information is gathered from youth, parents, collateral sources (e.g. teachers), and from previous reports. Parts I and II consist of a detailed 42-item survey of youth risk and criminogenic needs according to the eight domains identified in the RNR framework. Each of the items is coded present or absent. Items within each of the eight domains are combined to provide a need score that is categorized as low, moderate, or high based on YLS/CMI norms. An overall risk for recidivism score is calculated based on the entire checklist and assigned a corresponding risk category (low, moderate, high, and very high). Responsivity variables (e.g., cognitive functioning, cultural and/or language issues) are coded from Part III of the YLS/CMI.

For the present study, each youth's profile included two assessments with this tool: one completed at the mental health centre and another completed by his/her probation officer (termed a 'Risk Need Assessment', or RNA, in the Ontario youth probation system). We compared the YLS/CMI scores derived from the court-ordered assessment to the probation scores from the RNA that was closest chronologically to the assessment. Although the total scores were strongly correlated, $r = .77, p < .001$, a paired samples t-test showed that probation officers' total risk scores ($M = 20.99, SD = 8.77$) were significantly higher than clinicians' scores ($M = 18.96, SD = 7.50$), $t(68) = -2.96, p < .001$; however, both average total risk scores fell within the moderate risk range. Only one criminogenic need domain yielded significant differences in professional ratings of risk: probation officers rated family circumstances/parenting as higher risk ($M = 3.30, SD = 1.45$) than the clinicians did ($M = 2.88, SD = 1.58$), $t(68) = -2.33, p = .02$. This indicates that, overall, probation officers and clinicians had similar understandings of what constituted risk factors for the youth in this sample.

Examining the qualitative categories (low, moderate, high, and very high) corresponding to the YLS/CMI total risk scores, clinician and probation officer ratings resulted in different categorizations of the same youth in 34.8% of cases (24 out of 69). All but four of the cases resulted in the probation officer assigning a higher risk categorization than the clinician. Half of the cases involved Indigenous youth and half involved non-Indigenous youth, indicating that no one group was disparately categorized more than the other.

In subsequent analyses, the clinicians' scores alone were used as risk measures, partly for simplicity (with the knowledge that they closely mirrored probation officers' scores), but also because they were gathered at the same time as, and helped to inform, the need profile for each youth (described in the next study measure). Only one set of clinician YLS/CMI scores was missing, leaving a total sample of $n = 69$ for analyses involving risk variables.

Criminogenic need. Each court-ordered assessment concluded with a summary and list of recommendations that highlighted the youth's needs and targets for intervention. These conclusions mapped on to the seven dynamic risk domains of the YLS/CMI, although they also referenced areas outside of its purview (e.g., mental health issues such as depression or anxiety, trauma history, connection to culture and spirituality, mentorship, and life skills acquisition, to name some of the most common). For each of the seven dynamic criminogenic need domains, a need was coded as 'present' if it was mentioned anywhere in the conclusion section of the report – including, but not limited to, the recommendations – or 'absent' if it was not mentioned anywhere in the summary and recommendations section. Criminogenic need was explored separately from YLS/CMI scores in this way because research has shown that offenders with similar risk scores can have very different need profiles (Taxman & Caudy, 2015).

Match to services. Recall that 'service matching' refers to the extent to which youths' identified criminogenic needs were addressed (e.g., via specific programs, intervention services, or through probation case management). Thus, for each youth, each criminogenic need domain in which a need was identified (i.e., coded as 'present'), was coded as 'matched' or 'not matched' based on information provided in probation officer case notes. These case notes document every instance of contact between the probation officer and the youth or anyone connected to the youth (e.g., family members, peers, educators, service providers, etc.). Case notes are used to monitor a youth's adherence to the conditions of his or her sentence and to track progress towards probation goals. Entries include records of conversations with youth clients, summaries of telephone updates from parents, minutes from circle of care planning sessions, reports of program participation and completion from youth-serving agencies, and attendance records from schools, as well as any court appearances or police contact. From this detailed and ongoing account, it is possible to extract information about the intervention that a youth receives over the course of probation.

Based on this data, coding match involved a holistic assessment of both the *quantity* of service (e.g., intensity of an identified treatment program as well as the consistency of youths' attendance) as well as service *quality* (e.g., evidence-based, conducted by trained personnel). An identified need was coded as 'not matched' if there was no mention of intervention or case management activity, if intervention was attempted but the youth attended few sessions, or if a youth had some case management or treatment that was not evidence-based. An identified need was coded as 'matched' if a youth participated consistently in programming (even if it was not considered 'high quality' – e.g., evidence based) or if a youth participated (even moderately) in evidence-based programming or case management.

An 'overall match' variable was also computed by dividing the number of matched domains by the total number of need domains identified as requiring service. For example, if a youth had four criminogenic need domains identified as requiring service and was coded as 'matched' for service in two of those domains, the overall proportion match score would be .50.

Recidivism. Recidivism data were extracted from a national police criminal records database and corroborated by probation case notes. A youth was considered to have reoffended if he/she was convicted within two years of the release date following the initial offence (the one for which the court-ordered assessment was completed). This release date always occurred at sentencing (if the youth was released at court) or after sentencing (if the youth had to complete a term of secure custody), to minimize the impact of court processing time on the data. Any convictions that fell within the first three months following the assessment date were not counted. This three-month period was set aside in order to allow time for services to "kick in," with the reasoning that a youth who reoffends immediately after release to the community has not had an opportunity to have his/her needs addressed.

Recidivism was coded as a binary variable (yes/no) and – for those who reoffended – as a continuous variable (days to reoffence). Days to reoffence was calculated as the number of days the youth was in open custody or in the community and thus had the opportunity to both receive services and to reoffend. This variable was calculated by subtracting the reoffence date from the release date (described above). Time spent in secure custody during that period was also deducted from the time to reoffence. Time in the community was included as an outcome in the study to reflect the multifaceted goals of diversion programming. Although the ultimate objective is to prevent recidivism, exposure to and engagement in life outside of an institutional

setting, with the potential for prosocial relationships and activities, is an important outcome of probation services.

Qualitative Analysis

Theoretical orientation

The Indigenist research paradigm (Longboat, 2008; Ray & Cormier, 2012; Steinhauer, 2002; Weber-Pillwax, 2001; Wilson, 2007, 2008) views research as fundamentally relational, to be consistent with Aboriginal worldviews grounded in the interconnectedness of all life. It was therefore integral to the present study to include the perspectives of those who work with justice-involved youth, as a way of contextualizing our analyses within the lived experience of people in the field, whose knowledge of risk, need, and recidivism could generate novel perspectives and connections beyond the scope of our standardized measures. Considering the influence of risk assessment at multiple points in the judicial process—from sentencing to service delivery—we identified judges, lawyers, youth court workers, probation officers, and community agency workers as key stakeholder groups to approach.

Of course, the most important stakeholders in this process are justice-involved youth themselves. Unfortunately, while efforts were made to reach out to youth through the frontline workers, the limited timeframe of the study prevented the kind of intensive relationship-building necessary to earn the trust of these vulnerable youth. We were therefore unable to include any youth in our qualitative analyses.

Sample

Participants included one youth court judge, one Crown Attorney, three community agency workers, and three probation officers ($N = 8$). Five identified as female and three

identified as male, while seven identified as Caucasian and one identified as Aboriginal. Three participants were over 60 years of age, two were between 50-59 years, two were between 40-49 years, and one was under 30 years of age. Half of the sample ($N = 4$) held a university or college degree, while the other half ($N = 4$) held a post-graduate or professional degree. Participants' experience in their current positions ranged from 4 – 35 years (*median* = 19 years).

Procedure

Through purposive sampling, the primary researcher invited individuals to participate in the study by email, either directly or after initially liaising with management at their institutions (e.g., probation manager at the probation office). Prospective interviewees were emailed an information letter describing the study along with a consent form. Participants either emailed back the signed consent form or provided verbal consent prior to the interview. All interviews were conducted over the phone and all were prefaced by a review of the consent form, regardless of whether a signed copy had been received. Interviews lasted between 60 and 100 minutes ($M = 70.63$). Using the snowball sampling method, interviewees were asked, if they felt comfortable doing so, to suggest names of colleagues who might be interested in participating.

While the primary researcher conducted the interviews, a colleague recorded participants' responses. These transcripts formed the basis for a study of culturally-specific diversion programming for Indigenous youth (Finseth, 2014; Finseth & Peterson-Badali, 2015). The present qualitative investigation involved interpretation of these same transcripts following the thematic analysis approach laid out by Braun and Clarke (2006).

The first step of thematic analysis is to identify the researcher's theoretical framework. In this case, we adopted a top-down orientation, approaching the data with the intention of linking it to the quantitative questions posed in this study. The coder was thus seeking any information

Commented [PM4]: Commentators indicated they were not clear if interviews were newly collected or if the study used interviews from another study, as secondary data. Would you please add information to clarify this? Also, it was suggested that if the transcripts were collected for a study of culturally-specific diversion programming for Indigenous youth, it would be useful to more clearly show the link between the relevance of this information and their risk-needs-responsivity study outlined in the quantitative discussion. For instance, how does RNR as a post-conviction tool fit with the discussion about diversion, which can include pre-charge/post-charge/post-conviction/post sentencing processing? Perhaps the type/nature of diversion could be clarified.

Some sample questions and/or an interview guide in the appendix would be useful.
Would you please say more about the type of interview? e.g. semi-structured, structured, participant led, etc.

related to the criminogenic needs, service uptake, and recidivism of Indigenous and non-Indigenous youth. Since this qualitative analysis was seen as an opportunity to complement, expand, and even challenge our quantitative findings, any comments related to these points were included. The focus was on the semantic content of the interviews, which were treated as realistic representations of experience. Over the course of multiple readings, sections of text were assigned "codes," or labels, taken from the transcripts themselves; these were grouped together under broader themes (e.g., the codes "trauma" and "poverty" were subsumed into the theme "underlying issues"). Themes were renamed and rearranged until a final model was reached.

Results

Quantitative Findings – Comparative Analyses

Question 1.a. Do Indigenous and non-Indigenous youth differ in level of risk?

There was no significant difference between Indigenous and non-Indigenous youths' total risk score. As Table 2 shows, in terms of domain-specific evaluation of risk, two significant differences emerged. Scores in the peer relations domain were significantly higher for Indigenous youth than for non-Indigenous youth. Likewise, Indigenous youth were rated as significantly higher risk in the leisure/recreation domain than their non-Indigenous peers.

Due to the high proportion of rural Indigenous youth, two-way ANOVAs were conducted to examine the effect of Indigenous status and rural residence on the two observed significant elevations in risk. There was no main effect of residency type and no significant interaction between the effects of Indigenous and rural status on peer association risk, $F(1, 65) = .03, p = .86$, or on leisure risk, $F(1, 65) = .09, p = .76$.

Table 2 – Total risk and domain scores for Indigenous and non-Indigenous youth

Variable	Indigenous	Non-Indigenous	Total	t-test
YLS/CMI Mean Scores				
Total Risk	19.59	18.22	18.96	$t=-0.76, p=.45$
Criminal History	1.62	1.31	1.48	$t=-0.81, p=.42$
Family	2.89	2.88	2.88	$t=-0.04, p=.97$
Education/Employment	3.05	3.44	3.23	$t=0.98, p=.33$
Peer	2.65	1.94	2.32	$t=-2.18, p=.03$
Substance Abuse	2.81	2.03	2.45	$t=-1.91, p=.06$
Leisure	1.97	1.47	1.74	$t=-2.67, p=.01$
Personality	2.92	3.47	3.17	$t=1.29, p=.20$
Attitudes	1.68	1.72	1.70	$t=0.12, p=.90$

Question 1.b. Do Indigenous and non-Indigenous youth differ in number and type of criminogenic needs?

Of seven possible dynamic criminogenic need domains that could be identified as requiring service, Indigenous youth had nearly six identified by clinicians, on average ($M = 5.70$, $SD = 1.15$), whereas non-Indigenous youth had five domains identified ($M = 5.09$, $SD = 1.47$), $t(68) = -1.95, p = .05$. In terms of specific criminogenic domains, Indigenous youth were significantly more likely to have needs in the Education and Leisure domains than non-Indigenous youth (see Table 3).

To determine whether the substantially higher number of Indigenous youth from rural areas potentially affected these results, a loglinear analysis was conducted. It revealed no significant interaction between Indigenous status, rural residence, and education need, $\chi^2(1) = 0.00, p = .96$, and no significant interaction between Indigenous status, rural residence, and leisure need, $\chi^2(1) = 1.12, p = .29$.

Table 3 – Need profiles of Indigenous and non-Indigenous youth by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Need-Yes (n in brackets)				
Family/parenting	81.1 (30)	93.9 (31)	87.1 (61)	FET, $p=.16$
Education/employment	94.6 (35)	69.7 (23)	82.9 (58)	$\chi^2(1)=7.61$, $p=.01$
Peer relations	94.6 (35)	81.8 (27)	88.6 (62)	FET, $p=.14$
Substance abuse	78.4 (29)	60.6 (20)	70.0 (49)	$\chi^2(1)=2.62$, $p=.11$
Leisure/recreation	81.1 (30)	57.6 (19)	70.0 (49)	$\chi^2(1)=4.59$, $p=.03$
Personality/behaviour	91.9 (34)	97.0 (32)	94.3 (66)	FET, $p=.62$
Attitudes/orientation	48.6 (18)	48.5 (16)	48.6 (34)	$\chi^2(1)=0.00$, $p=.99$

Question 1.c. Do Indigenous and non-Indigenous youth differ in match to services?

The two groups did not significantly differ on number of needs matched, $t(67) = 1.04$, $p = .30$, with Indigenous youth ($M = 1.39$, $SD = 1.27$) and non-Indigenous youth ($M = 1.73$, $SD = 1.42$) having, on average, between one and two domains addressed through adequate intervention. Similarly, both groups had comparable overall proportions of needs matched, $t(61) = 1.63$, $p = .11$, with Indigenous youth getting about one quarter of their needs met ($M = .26$, $SD = .25$) and non-Indigenous youth getting roughly one-third of their needs met ($M = .37$, $SD = .32$).

A chi square analysis compared match for both groups domain by domain, to see whether they diverged in kinds of services received (see Table 4). The only significant difference was in the peer domain, with Indigenous youth significantly less likely to have their needs in this area matched compared to non-Indigenous youth, $\chi^2(1, N = 61) = 4.00$, $p = .05$. Of the 34 Indigenous youth with an identified need in peer association, 27 did not receive sufficient services to address this need.

Table 4 – Proportion of Indigenous and non-Indigenous youth with identified needs matched by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Match-Yes (n in brackets)				
Family/parenting	13.8 (4)	22.6 (7)	18.3 (11)	$\chi^2(1)=0.77, p=.38$
Education/employment	11.8 (4)	13.0 (3)	12.3 (7)	FET, $p=1.00$
Peer relations	20.6 (7)	44.4 (12)	31.1 (19)	$\chi^2(1)=3.99, p=.05$
Substance abuse	34.5 (10)	40.0 (8)	36.7 (18)	$\chi^2(1)=0.16, p=.69$
Leisure/recreation	20.7 (6)	26.3 (5)	22.9 (11)	FET, $p=.73$
Personality/behaviour	51.5 (17)	62.5 (20)	56.9 (37)	$\chi^2(1)=0.80, p=.37$
Attitudes/orientation	11.1 (2)	12.5 (2)	11.8 (4)	FET, $p=1.00$

Question 1.d. Do Indigenous and non-Indigenous youth differ in recidivism rates?

As shown in Table 1, the recidivism rate for the whole sample was 68.6%, with 70.3% of Indigenous youth reoffending and 66.7% of non-Indigenous youth reoffending, $\chi^2(1, N = 70) = .11, p = .75$. For those youth who did reoffend, time to reoffence did not significantly differ by Indigenous status.

Quantitative Findings – Predictive Analyses

There is some evidence for gender differences in risk, need, and responsivity among justice-involved youth (Plattner et al., 2009; Vitopoulos, Peterson-Badali, & Skilling, 2012; Woodson, Hives, & Sanders-Phillips, 2010). As a result, it is important to examine possible gender effects in analyses. However, due to the small number of females in the sample (especially when broken down by Indigenous/non-Indigenous group; see Table 1) it was not possible to include gender as a variable alongside Indigenous group in the analyses. In order to go some distance in addressing the question of gender differences, analyses were conducted with the sample as a whole as well as with males only in order to examine whether results differed with and without females included. Using total risk and proportion match as predictors, logistic

regressions with recidivism as the outcome and survival analysis with time to reoffence as the outcome were conducted. The pattern of results was the same with or without the females in the sample: significant findings remained significant and non-significant findings remained non-significant. The analyses presented below are based on the full sample.

Question 2.a. Does YLS/CMI level of risk predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

YLS/CMI total risk scores were significantly higher for youth who reoffended ($M = 20.52$, $SD = 6.63$) than for those who did not ($M = 15.38$, $SD = 8.28$), $t(67) = 2.74$, $p = .01$. To test the YLS/CMI's predictive validity for the sample as a whole, a Receiver Operating Characteristic (ROC) analysis was conducted. The area under the curve (AUC) statistic was significant (0.68 , $p = .02$), indicating that the model classified the sample significantly better than by chance; at a 95% confidence interval (CI), there was a 68% probability that a randomly selected recidivist would obtain a higher YLS/CMI score than a randomly selected non-recidivist (CI range = 0.53-0.83).

In order to examine whether the relationship between total risk and reoffence differs depending on Indigenous vs. non-Indigenous status, a hierarchical logistic regression was conducted with total YLS/CMI risk score entered at Step 1, Indigenous status entered at Step 2, and the interaction of risk score with Indigenous status entered at Step 3. Total risk score was the only significant predictor in the model, Wald $\chi^2(1) = 4.55$, $p = .03$, odds ratio (OR) = .89, 95% CI = .80 to .99; for every one unit increase on the YLS/CMI, the odds of reoffending increased by 9%. Indigenous status did not contribute significantly to the model, Wald $\chi^2(1) = .24$, $p = .63$, and neither did the Indigenous status by total risk score interaction term, Wald $\chi^2(1) = .25$, $p = .62$.

Question 2.b. Does the extent to which youths' identified criminogenic needs are addressed ('service match') predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

There was a trend such that the overall proportion of identified criminogenic needs that were 'matched' during youths' sentences was higher for youth who did not reoffend ($M = 40\%$, $SD = 32\%$) than for those who did ($M = 27\%$, $SD = 27\%$), $t(67) = -1.73$, $p = .09$.

In order to examine whether service matching predicted reoffending after taking youths' risk scores into account, a hierarchical logistic regression was conducted, with youths' criminal history scores² entered at Step 1, Indigenous status and proportion service match scores entered at Step 2, and the interaction of proportion match with Indigenous status entered at Step 3. The overall model was not significant at any of the steps, $\chi^2(4) = 6.18$, $p = .19$, and none of the individual predictors were significant: proportion match, Wald $\chi^2(1) = 1.88$, $p = .17$, Indigenous status, Wald $\chi^2(1) = .20$, $p = .65$, and the interaction term, Wald $\chi^2(1) = .82$, $p = .37$.

Question 2.c. Do YLS/CMI level of risk and match to services predict time to reoffence for Indigenous and non-Indigenous youth and does this differ between groups?

The other dependent variable of interest in the present study was how long youth who eventually reoffended ($n = 48$) were able to remain in the community. One would expect that youth who scored higher on the YLS/CMI (i.e., higher risk youth) would spend a shorter amount of time on probation before reoffending. Due to the non-parametric distribution of the data representing days in the community for the whole sample ($p < .005$, Shapiro-Wilk Test) and for both groups ($p < .05$, Shapiro-Wilk Test), a Spearman's rank-order correlation was used for these

² Criminal History was used instead of the YLS/CMI total risk score because the proportion match variable entered in step two of the analysis is derived from the youth's YLS-identified criminogenic needs. The clinician recommendations used to calculate proportion match overlap with the domain scores that constitute the YLS total score; inclusion of the latter in the model would thus take away from the variance explained by proportion match. Criminal History was deemed an appropriate substitute measure of risk due to its strong correlation with total YLS/CMI risk scores in this sample, $r(69) = .58$, $p < .0001$.

analyses. For the sample in its entirety, the relationship between YLS/CMI total score and time in the community was not significant, ($r_s = -.20, n = 47, p = .18$). Similarly, at the group level, total risk and time in the community were not significantly associated for Indigenous youth ($r_s = -.29, n = 25, p = .17$) or non-Indigenous youth ($r_s = -.13, n = 22, p = .57$).

With respect to match to services, it was anticipated that a higher proportion of needs matched would be associated with a longer period before reoffence. A Spearman's rank-order correlation demonstrated a robust positive correlation, ($r_s = .50, n = 47, p < .0001$), such that as proportion match increased, so did the time that a youth lasted in the community. Group comparison revealed that this effect was due to the Indigenous youth in the sample, for whom this positive relationship was strong and significant, ($r_s = .64, n = 25, p < .005$). Although proportion match was not significantly associated with time in the community for non-Indigenous youth, the data showed a trend in this direction ($r_s = .37, n = 22, p = .09$).

A Cox regression was used to examine the relationship between the predictor variables – criminal history, match to services, and Indigenous status – and time to reoffence for the whole sample. Youths' criminal history scores were entered in Step 1 to control for risk. The results of this analysis indicated that a youth's risk score did not significantly predict time to reoffence, $\chi^2(1, N = 68) = 0.91, p = .34$. However, adding proportion match resulted in a statistically significant model, $\chi^2(1) = 4.57, p = .03$, such that for every 'unit' increase in match, a youth's likelihood of reoffending decreased by 77.7%. After controlling for risk and match, inclusion of Indigenous status did not add any significant prediction to the model, $\chi^2(1) = 0.05, p = .83$.

Given that risk level did not directly predict time in the community, it was hypothesized that match to services could be moderating this relationship (i.e., the impact of risk would vary as a function of the proportion of needs matched). It was postulated that match could be acting as

a 'buffer': at high levels of match, risk would not be significantly related to time to reoffence, while at low levels of match, risk would have greater bearing on a youth's survival time.

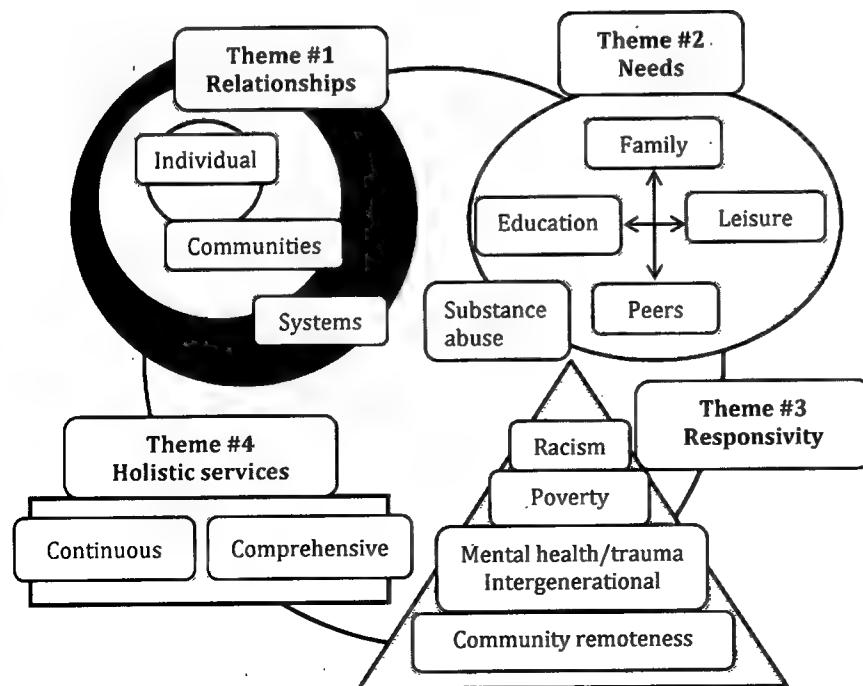
However, moderated multiple regression analyses were not significant: in the whole sample ($\Delta R^2 = .00$, $F(1, 43) = .05$, $p = .83$), the Indigenous group alone ($\Delta R^2 = .02$, $F(1, 21) = .07$, $p = .80$), and the non-Indigenous group alone ($\Delta R^2 = .02$, $F(1, 18) = .08$, $p = .78$), including proportion of needs matched as a moderator did not account for a significant amount of variance in time to reoffence.

Qualitative Findings

The following four themes emerged from our interviews with justice system personnel and community agency workers (see Figure 1).

Commented [PM5]: The question was raised of whether the graphic could be introduced before engaging each theme. For instance, each of the qualitative themes has a number of dimensions. Could the discussion be opened by introducing these dimensions and articulating each one? It was noted that the graphic and the use of a triangle for Theme 3 implies a hierarchy/amount of influence of a given factor.

Figure 1 – Study Themes



Theme one: Relationships

All eight participants talked about the importance of relationships to the functioning of the justice system in general, to the effectiveness of their work in particular, and to the outcomes of individual youth.

Beginning with relationships at a systems level, seven of the interviewees discussed the relationship between Indigenous and non-Indigenous concepts and instruments of justice. Specifically, they described how Indigenous knowledge and traditions should be and are integrated into mainstream judicial institutions. From a philosophical perspective, this included questioning the purpose and utility of incarceration and examining the goals of probation; from a practical perspective, this included holding restorative justice circles at the courthouse and

Commented [PM6]: It was noted that it is not clear why this needs to be from a philosophical perspective. Would you please clarify: is this perspective that of the author's or the participants'?

engaging in cultural teachings at the custody facilities. Participants observed that Indigenous practices benefit Indigenous and non-Indigenous individuals alike. As Respondent 3 put it, *"Things need to be inclusive rather than segregated. I don't think there needs to be a mainstream OR a traditional. I feel like we're always fighting this Us against Them. But it should be that traditional elements are infused into mainstream. I mean there are so many things that everyone would benefit from – like the seven teachings."* Community agency workers expressed that they invest significant effort in raising awareness and uptake of Indigenous-specific services; justice system personnel showed a corresponding knowledge of and willingness to refer to these services.

Another critical relationship, raised by four participants, is the one between justice system representatives and Indigenous communities. Community members were seen as holders of knowledge, whose understanding of the histories, resources, and struggles within their communities could inform not only how to help individual youth, but also how to make diversion and probation services more culturally responsive. Two of the interviewees shared how being physically present in the communities is fundamental for learning and forming meaningful ties: *"I was flying into very remote communities and I had to develop trust... There was nothing like sitting on someone's porch and just talking"* (Respondent 6). These participants also emphasized the diversity among communities that would render any blanket approach to the administration of justice insensitive and ineffective. As Respondent 1 shared, *"Our native colleagues and scholars say, 'I can speak for me and maybe for my community – but I can't speak for any other community.'"*

All of the probation officers and community agency workers spoke of the relationships that youth forge with them and other service providers. A strong connection was instrumental to

engagement in services: *"Biggest part of my job is building a relation, connect[ing] with them; how can I show them that I genuinely care about them getting better and healing and that it's not just a referral I got, I want them to be a successful member of my community"* (Respondent 3).

Interviewees talked about meeting youth where they are, both metaphorically, by addressing needs that youth are ready to work on, and literally, by being with them in their own spaces out in the community. The words "person-centred," "supportive," and "strengths-based" were used to describe the prevailing mode of interaction. At the same time, participants stated that they bring direction and structure to the relationship; consistency was identified as particularly important for justice-involved youth, whose past experiences are often marked by unstable relationships and unpredictable living situations. Just as diversity was stressed at a community level, so was it underscored at the individual level: *"Each kid is very different. Everyone is unique, and I treat them like that. There's no cookie cutter approach for me"* (Respondent 6).

One service provider suggested that in Indigenous-specific services, the capacity for individual relationship-building is even greater: compared to mainstream programs, which strive to efficiently target a particular need, Indigenous programs invest time in getting to know the whole person. Relatedly, a second participant noted that Indigenous-specific services delve more deeply into personal issues, requiring greater commitment and involvement from the youth. This is consistent with the observation of a third participant that culturally sensitive services also allow Indigenous youth to cultivate better relationships with themselves. Through exposure to Indigenous teachings, traditions, and role models, youth can begin or continue to explore their own Indigeneity and their place within Indigenous and non-Indigenous worlds.

Theme two: Needs

Participants touched on five areas of criminogenic need, noting ways in which some of these domains are especially problematic for Indigenous youth. Every interviewee mentioned family support as a (and perhaps the most) crucial factor in determining any youth's trajectory through the system. Respondent 3 summed it up this way: *"I would say the biggest thing is that support system. If they have buy-in from parents, teachers, and they can connect with someone—an Elder, a healthy sibling, peers—someone who can continually support them over time, the ones who are successful are those who find that support."* Two people identified family risk factors that they often find for Indigenous youth, such as parental FASD or lack of parenting skills, which they connected to longstanding issues stemming from colonization.

For four participants, education was a critical area requiring intervention. Two interviewees mentioned that they see Indigenous youth struggling to see the value of the education system – perhaps due to the legacy of residential schools – resulting in poor motivation and engagement. For two other interviewees, the school system itself was a barrier, unable to accommodate the learning needs of justice-involved youth in general, who often struggle academically: *"The education system works as a silo. It doesn't work with us. Most of our kids are not your average students... We need trade schools... For me, a kid who's gained some skills and knowledge is going to be a better member of the community"* (Respondent 7).

Four interviewees flagged ongoing negative peer association as a defining feature of youth, including Indigenous youth, who remain in the system. One participant perceived Indigenous youth as feeling caught between their Indigenous and non-Indigenous peers, uncertain where to form friendships. Two participants described gang membership as the logical endpoint for Indigenous youth with no family or other support network, illustrating how the criminogenic needs can intersect.

Three participants mentioned constructive use of leisure time as a protective factor, although not as a pressing area of need, contrary to our quantitative findings. One interviewee pointed out that in remote communities with no recreational activities, boredom leads youth into trouble. However, discussion of leisure time again revealed the extent to which the criminogenic needs are interconnected. As Respondent 3 put it, *"if the education system is pushing them out, where do you think they'll end up? The justice system picks them up. What else will they do with their time?"*

All eight participants identified substance abuse as a pervasive problem for all justice-involved youth, placing it alongside lack of social support as a major predictor of continued involvement with the courts: *"if they haven't conquered that yet, then that will keep them on a path that will keep them in the system"* (Respondent 7). While one interviewee observed chronic substance abuse at younger ages among Indigenous youth, the overall consensus was that this is a challenge across the board.

Theme three: Responsivity

References to "underlying" issues or problems came up in three interviews, referring to the factors influencing youths' completion of diversion and probation programming. (In the RNR model, these would be responsivity factors.) For four participants, significant mental health issues were a concern, particularly for Indigenous youth. Three participants mentioned trauma as another crucial consideration, two speaking specifically of Indigenous youth. One person explicitly referred to intergenerational trauma as an added layer of need for Indigenous youth, while two other interviewees stressed the importance of taking intergenerational context into account: *"I recognize this more and more, but a lot of these issues are historic family issues, it's generational. I can think of one family where I've had five of their children [as clients]. I now*

have grandchildren. Children of children of children that I had when I first started" (Respondent 7).

Half of participants saw poverty as barrier to service for many youth, with those from remote reserves being particularly disadvantaged. Financial insecurity, in turn, restricts housing options, with youth getting stuck in low-income neighbourhoods, where they are exposed to other risks, or couch-surfing between family members and friends, in which case they are harder to track down for programming. As Respondent 3 explained, "*[There is a] two-year waitlist to get a house. So even if you have issues that come up and you want to move and better yourself, it's next to impossible.*" For three interviewees, limited access to transportation was another correlate of poverty and another barrier to treatment, although one individual indicated that organizations in Thunder Bay address this proactively by providing youth with rides and bus tickets. One person pointed out that, as a result of coming from disadvantaged and dysfunctional environments, youth lack basic, practical skills for daily functioning and that there is a need for life skills programming. Indeed, this was a common recommendation in the court assessments for this sample. Taxman and colleagues propose that mental health, socioeconomic status, housing, transportation, and life skills can be conceptualized as *systemic* responsivity factors that influence individuals' response to intervention; termed 'destabilizers,' these variables determine the extent to which a person can attend and engage in treatment, thereby indirectly affecting recidivism (Taxman, 2014; Taxman & Caudy, 2015).

Two participants stated that Indigenous youth face the additional obstacle of racism, which magnifies the stigma they already face as justice-involved individuals.

Six interviewees described the unique circumstances and needs of Indigenous youth from remote reserves who come to Thunder Bay, usually to attend high school. Some described these

youth as having a hard time adjusting to city life, trying to physically and socially navigate an unfamiliar space with unfamiliar rules; this geographic and psychological dislocation makes them susceptible to involvement with the law: *"That's something that has really struck me—the kids from the far north who migrate into the cities are the most vulnerable that we see here, the most likely to be in the justice system"* (Respondent 5). If youths' families cannot afford to come with them to Thunder Bay, they are placed with boarding families whom they may not know. If youth are from 'dry' communities, they can become overwhelmed by the easy access to substances in the city. On-reserve education does not necessarily prepare youth for provincial public high school, resulting in academic difficulties and failure. With these examples, participants demonstrated how an Indigenous youth's community of origin can have implications for multiple criminogenic domains and put them at risk for repeated offending.

Theme four: Holistic service

The issue of how to address these difficulties brings us back to what participants said about the benefits of Indigenous teachings and services: a holistic approach. From the perspectives of four participants, diversion and probation programming needs to be comprehensive and continuous: it sees the youth as embedded in a context, involving members of the youth's family and community in treatment, and it goes beyond crisis management to include follow-up care. To quote Respondent 3, *"You can't take a youth away from a bad environment and work with them and then send them back... We look at the family and the situation around them as being very important."* Participants described this kind of ecological, wrap-around service as implemented in some cases, but in need of more widespread application.

Commented [PM7]: Would you please expand on this theme? What further examples from the data exist to support the relevance of the theme? Does the study enable you to detail the ways in which programming needs to be continuous and comprehensive? (It appears further information would be useful for those not directly engaged in working with Indigenous justice-involved youth to understand the significance and myriad instances in which this theme could come into play.)

Discussion

Risk and Criminogenic Needs in Indigenous and non-Indigenous Youth

Indigenous and non-Indigenous youth did not significantly differ in terms of overall risk to reoffend, which runs contrary to previous findings that Indigenous youth score significantly higher on aggregate risk (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012). When examined at the domain level, Indigenous youth in the present study did score significantly higher on risk in the domains of peer association and leisure time, which is consistent with prior research (Olver, Stockdale, & Wong, 2012; Jung & Rawana, 1999). Whether they reside in small, remote communities or in larger towns and cities, Indigenous youths' social participation (which relates both to peer affiliations and opportunities for prosocial leisure activities) may be limited. In the wake of seven deaths of First Nations youth in Thunder Bay, the Ontario First Nations Young Peoples Council conducted a survey of over 100 Indigenous youth from across Ontario. Youth reported that they found it difficult to make friends off-reserve when they left to attend school (due to racism), while at the same time losing touch with friends who stayed on-reserve (OFNYPC, 2016). Youth in Winnipeg, Manitoba reported similar difficulties making friends with non-Indigenous peers, resulting in an insular experience of urban community (Belanger et al., 2003). Alluding to this very phenomenon, one of our interviewees described Indigenous youth as "*caught in the middle*" between Indigenous and non-Indigenous communities. Moreover, urban Indigenous youth have been described as a highly mobile population, who may move within cities (as well as between cities and their home communities) multiple times for school, work, health, and other socioeconomically motivated reasons (Baskin, 2007; Brown et al., 2005). This has clear implications for their ability to sustain social networks and recreational commitments. Indeed, one of the probation officers interviewed

Commented [PM8]: It was suggested that some reorganization of the first page of the discussion section (p. 34) would be helpful. The discussion was perceived as quickly changing from a comparison of levels of risk on actuarial scales to research that seems to come from self-report studies with youth.

Commented [PM9]: It was also suggested that when there is discussion of the significant difference among Indigenous youth, that consideration be given to clarifying that it involves education/employment, not just education. This would be consistent with Table 3 (p. 21).

for the present study identified such transience as a barrier to getting Indigenous youth connected to services.

Although both groups in our sample had comparable numbers of criminogenic needs overall, Indigenous youth were significantly more likely to have clinician-identified needs in the education and leisure domains, a finding that was not a function of where they lived (i.e., urban vs. rural communities). Virtually all Indigenous youth in our sample (94.6%) had needs in the education domain and 81.1% had needs in the leisure domain. These figures reflect broader challenges in schooling and recreation facing Indigenous youth across the country. Indeed, the education gap between Indigenous and non-Indigenous Canadians has been described as one of the nation's greatest public policy challenges (Richards, 2008). For First Nations and Metis individuals living off-reserve, 60% of men and 75% of women between the ages of 20 and 24 have a high school diploma; for non-Indigenous Canadians, this figure ranges from 84-91%, depending on the province (Richards, 2008). For the on-reserve Indigenous population, the divide is even more pronounced, with only 35.3% of individuals completing high school (Rosenbluth & Drummond, 2013).

With regard to leisure needs, research conducted with Indigenous youth across Canada has identified numerous barriers to participating in organized recreational activity, including lack of infrastructure and programming, limited access to transportation, pervasive underfunding, and continued racism (Brown et al., 2005; Mason & Koehli, 2012). Interviews conducted by one of the authors of the present study (Lockwood) in remote reserves in Ontario found similar themes: youth were frustrated by the lack of facilities and activities in their communities, citing boredom as a major obstacle to health and wellness (Mamow Ki Ken Da Ma Win: Searching Together, 2014a, 2014b).

Addressing Identified Needs in Indigenous and non-Indigenous Youth

Overall, number and proportion of criminogenic needs matched to services did not differ between groups. On average, the youth in this sample had about one third of their needs met ($M = 31.3\%$, $SD = 29.3\%$), a proportion comparable to that found in other studies (Peterson-Badali et al., 2015; Vieira et al., 2009). However, examining needs within the individual criminogenic need domains revealed that Indigenous youth were significantly less likely to have their peer association needs met; while 95% of Indigenous youth had a need identified in this domain, only 21% had it adequately addressed. As proposed above, it is possible that the social isolation experienced by Indigenous youth is not as easily resolved as for non-Indigenous youth. Traditional methods for addressing peer-related needs, such as encouraging school attendance or extra-curricular pursuits, may be hindered by the racism (Mason & Koehli, 2012; OFNYPC, 2016) and poverty (Abele & Delic, 2014; Latimer & Foss, 2004; Wilson & MacDonald, 2010) that Indigenous youth are likely to experience. Gang membership among Indigenous youth is likewise intertwined with issues of discrimination and disadvantage (Ogilvie & Eggleton, 2013; Sinclair & Grekul, 2012; Totten, 2009).

Reoffending in Indigenous and non-Indigenous Youth

Finally, recidivism rates did not differ between the two groups, even when controlling for criminal history. This is not consistent with previously published work indicating that Indigenous youth reoffend at significantly higher rates than their non-Indigenous peers (Luong & Wormith, 2011; Rojas & Gretton, 2007).

Predicting Reoffending in Indigenous and Non-Indigenous Youth

First, we discovered significant agreement between clinicians and probation officers when assessing overall and domain-specific risk. This suggests that service providers and justice

system personnel are using the instrument in similar ways, which is helpful for interagency and interdisciplinary collaboration.

Exploration of the YLS/CMI's predictive validity showed that the total risk score reliably distinguished recidivists from non-recidivists in the sample as a whole and predicted recidivism in Indigenous and non-Indigenous youth at comparable rates. These results are consistent with findings from the literature that the YLS/CMI significantly predicts recidivism for Indigenous youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver et al., 2009).

Match to services did not emerge as a significant predictor of recidivism in either group. It is possible that the low baseline rates of match meant that services were not intensive enough in a sufficient number of domains to influence reoffending. On the other hand, match to services was a significant predictor of time to reoffence, even when controlling for risk. This was the case for Indigenous and non-Indigenous youth alike. This lends support to the Need Principle of the RNR framework: addressing a higher percentage of youth's identified needs with appropriate services kept youth in the community longer – an important intermediary goal of probation.

Qualitative Findings

Interviews with eight justice system personnel and community agency representatives were captured under four overarching themes. Participants highlighted the importance of cultivating relationships—between Indigenous and non-Indigenous philosophies and practices, between legal bodies and Indigenous communities, and between justice-affiliated personnel and the individual youth they serve. It was suggested that these relationships are especially beneficial for Indigenous youth because they occur within culturally tailored services that enable them to explore their identity. Interviews with three Indigenous probation clients in another Canadian

city revealed that their relationships with frontline workers made them feel supported and encouraged them to continue with programming (Finseth, 2014; Finseth & Peterson-Badali, 2015).

Interviewees identified several ways in which Indigenous youths' criminogenic needs have an added layer of complexity that can be connected to underlying social and historical factors. Lack of supervision from parents and lack of trust and investment in the education system could reflect ongoing repercussions of the residential school era; affiliation with gangs could reflect a search for both identity and family. While all of these risk factors are captured in the RNR framework (and in RNR-based measures of risk such as the YLS/CMI), these reflections suggest that they do not manifest in the same way for Indigenous and non-Indigenous youth. Similar discussions have arisen in the research literature on gender and criminogenic risk (e.g., Vitopoulos, 2016).

Respondents also described Indigenous youth from a responsivity perspective: their identified challenges could be seen as manifestations of intergenerational trauma, unfolding within an enduring context of socioeconomic disadvantage and racism. Yessine and Bonta (2009) found a similar constellation of issues in their study of chronic offending among Indigenous and non-Indigenous youth: family interaction, peer association, and substance abuse predicted persistent criminal conduct for the former group but not for the latter. The authors connected these factors to the more severe poverty in the Indigenous group, which likely precipitated the breakdown of family support and adoption of unhealthy relationship and coping choices. Findings such as these, and the information provided by our interview sample, provide possible explanations for the elevated risk in the peer and leisure domains and the identified needs in education and leisure observed in our quantitative analyses.

Given the interrelated and entrenched nature of these issues, participants championed holistic rehabilitation of justice-involved youth, with programs that can include the youth's community and that can follow the youth over time. Scholars have made similar arguments for more collectively grounded programming, which moves beyond individually oriented 'rehabilitation' towards community-based healing (Cunneen, 2011).

Limitations and Future Directions

The present study had a small sample size, which affects the generalizability of its findings. Given this caveat, and the fledgling state of research in this area in general, replication with a larger sample is required. The authors are in the process of gathering data from Ontario for this purpose. However, as pointed out by our interviewees, the diversity among Indigenous communities requires particular attention to regional variation. Replications in other parts of the country are therefore also essential.

Secondly, this study focused exclusively on criminogenic needs within the RNR framework. However, there is theoretical and qualitative scholarship suggesting that colonization has created a distinctive set of circumstances for Aboriginal individuals that are not adequately reflected in existing risk assessment measures (Hannah-Moffat, 2013; Martel et al., 2011). Factors such as disconnection from traditional culture and spirituality (Ellerby & McPherson, 2002), life on reserves (Hannah-Moffat & Maurutto, 2003), and intergenerational trauma related to attendance at residential schools (Mann, 2009) have been proposed as unique experiences influencing the lives of Aboriginal peoples, including their criminal behaviour. In the court-ordered assessments for the present sample, individual and family trauma were common treatment targets emphasized in the recommendations. Indeed, a recent study indicates that measures of family cohesion, residence on reserves, and community well-being increased the

predictive validity of the YLS/CMI for Indigenous youth (Wilson, 2016). Further investigation of additional, culturally distinct factors affecting recidivism in this population is critical.

At the same time, careful consideration – in collaboration with Indigenous researchers, practitioners, and community members – needs to be given to whether and how any such ‘culturally-specific’ factors are incorporated into assessment, case management, and intervention programs for justice-involved Indigenous youth. In particular, couching systemic problems and disadvantage affecting Indigenous youth within the language of ‘risk’ (e.g., adding new ‘risk factors’ to RNR-based assessment tools) – even if these add to the predictive accuracy of such instruments – has the appearance (if not the effect) of ‘responsibilizing’ individuals for the legacy of colonization and the many disadvantages experienced by Indigenous individuals and communities. Thus, in addition to exploring the variables that may be more potently associated with reoffending for Indigenous than non-Indigenous youth, we also need to give careful consideration to what framing of those issues is most likely to benefit youth – and to avoid doing what may seem like ‘valid’ research (or policymaking or programming) that results in additional harms. Taxman’s concept of systemic responsivity (Taxman, 2014; Taxman & Caudy, 2015) may provide a useful lens through which to consider possible culturally-specific factors.

Thirdly, due to the small sample size of the qualitative portion of the present study, generalization should likewise be treated with caution. Moreover, as our interviewees emphasized, any generalization with communities as diverse as the ones they serve is problematic. Nevertheless, the interviews did indicate valuable avenues for future research. Participants shared information indicating that Indigenous youths’ criminogenic needs have additional dimensions that differentiate them from non-Indigenous clients. Unpacking ‘standard’ RNR domains of criminogenic risk (e.g., ‘family circumstances/parenting’, ‘education’, and

'peers') to understand how they may look different and operate differently for Indigenous youth is an important task for practitioners (who do this in an individualized way when they work with their clients), but also for designing policies and programs to meet youths' needs and to support rehabilitation as well as broader positive outcomes.

Participants provided anecdotal support for the efficacy of Indigenous-specific diversion programming, but evaluations of such programs are scarce. Studies of culturally tailored treatment are mostly qualitative or quasi-experimental, with incarcerated adult Indigenous samples; they reveal high levels of engagement and satisfaction among program participants (Heckbert & Turkington, 2001; Trevethan, Crutcher, & Rastin, 2002; Trevethan, Moore, & Allegri, 2005; Zellerer, 2003) but no improvement in recidivism (Trevethan et al., 2002; Trevethan et al., 2005). For Indigenous youth and adults alike, we need a better understanding of how culturally tailored services are being delivered, whether they affect recidivism, and, if so, what components of those programs are the active ingredients of change. Preliminary research suggests that Indigenous-specific programming treats the same needs identified in the RNR framework, but approaches them differently from mainstream programming (Finseth, 2014); further exploration of the extent to which culturally sensitive services overlap with restorative justice frameworks and with the RNR model is warranted.

Our interview participants also emphasized the importance of addressing systemic responsiveness variables in improving outcomes for youth; a sample of justice system personnel and service providers in Toronto, Ontario made the same point, highlighting housing, mental health, and transience as key targets of intervention for their Indigenous youth clients (Finseth, 2014; Finseth & Peterson-Badali, 2015). These consistent findings indicate the value of

exploring the impact of treating systemic responsivity factors on recidivism among Indigenous youth; to date, no quantitative investigations of this association have been conducted.

Finally, researchers need to engage with former and current probation clients themselves to hear from their perspectives what facilitates and interferes with completing their diversion programming. Scholarship has stressed the importance of seeking out and heeding the voices of Indigenous individuals especially, given their continued marginalization (Cunneen, 2011). There are a handful of studies profiling the experiences of Indigenous youth and young adults with gang membership (Grekul & LaBoucane-Benson, 2009), community reintegration (Brown et al., 2005), custody (Latimer & Foss, 2004), and culturally-specific diversion services (Finseth, 2014; Finseth & Peterson-Badali, 2015), but, to our knowledge, no comprehensive discussion of the diversion process and outcomes. Although Indigenous youth were not included in the present study, the authors acknowledge the necessity of their involvement in any diversion program planning, delivery, and evaluation. Building relationships with and seeking the views of Indigenous youth will be a key element of the follow-up work to this research.

Commented [PM10]: It was suggested that engaging with Indigenous youth more generally, to include those who are not criminalized as well as those who are, may provide useful perspectives. This could be particularly valuable given the findings about peers.

Summary and Conclusion

In the present sample of youth assessed in Thunder Bay, Ontario, we found that Indigenous youth were not assessed as at greater risk to reoffend than non-Indigenous youth, contrary to prior research, although they did score as higher risk on indicators of peer relations and leisure pursuits. Indigenous youth were also significantly more likely to have needs identified in the education and leisure domains. While this does not constitute a unique need profile, since it did not result in a unique offending pattern, it does point to areas where more services are required. Indeed, Indigenous youth were significantly less likely to have their peer-

related needs met, which indicates that this is one area of intervention that requires especially careful consideration in this population. However, it is also worth noting that Indigenous and non-Indigenous youth did not significantly differ in *overall* match to services. In addition, they did not differ in recidivism rates, which is an encouraging outcome given that previous studies have found higher recidivism rates among Indigenous youth (Luong & Wormith, 2011; Rojas & Gretton, 2007).

The YLS/CMI predicted recidivism equally well for Indigenous and non-Indigenous youth, providing further evidence of the instrument's cross-cultural predictive validity. However, it remains to be seen whether adding culturally relevant variables (such as intergenerational trauma or community well-being) will improve the accuracy and sensitivity of the measure. Match to services did not predict recidivism for either group, although it did significantly predict time to reoffence for all youth in the sample: youth who had more of their needs matched lasted longer without incurring new charges. This illustrates the value of addressing criminogenic needs through active case management and referral to services for all justice-involved youth.

Frontline workers from the justice system and the community shared insights into the pivotal role of relationships, at institutional and individual levels, in improving outcomes for Indigenous youth. They noted that collaboration with Indigenous communities, as sites of knowledge and leadership, can generate localized and more effective forms of restorative justice. They observed that the criminogenic needs in this population are complicated by systemic responsivity factors—including poverty, trauma, and racism—that are most effectively addressed by long-term, holistic treatment.

In addition to replication of the present study with larger and cross-national samples, more information is needed about a) why and in what ways education, leisure, and peers are such

high areas of need for Indigenous youth; b) how Indigenous youth are and can be more effectively engaged in services, especially in those high-intensity domains and especially from the perspectives of youth themselves; c) whether treating systemic responsivity variables improves outcomes for Indigenous youth; d) what culturally specific factors can contribute to assessment and prediction of risk in this population; and e) whether and how culturally specific services contribute to better outcomes for Indigenous justice-involved youth.

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³ This report belongs to Nibinamik First Nation. This information is available at the discretion of the community.

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Appendix A: Description of the YLS/CMI Assessment of Risks and Needs

Domain	Description of items	Sample items
Criminal history	Conviction, custody, and probation history	a. Three or more prior convictions b. Two or more failures to comply
Family	Relationship, supervision, and parenting difficulties	a. Inappropriate discipline b. Difficulty controlling behavior
Education/employment	Attendance, achievement, and behaviour issues	a. Disruptive classroom behaviour b. Truancy
Peer relations	Presence of antisocial and absence of prosocial relationships	a. Some delinquent friends b. No/few positive friends
Substance abuse	Degree of substance abuse problems, from least to most intrusive	a. Occasional drug use b. Chronic drug use
Leisure/recreation	Lack of interests and organized pursuits	a. Limited organized activities b. Could make better use of time
Personality/behaviour	Aggression, egotism, and poor impulse and emotion regulation	a. Inflated self-esteem b. Poor frustration tolerance
Attitudes/orientation	Callousness, defiance, and antisocial beliefs	a. Actively rejecting help b. Defies authority



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The relationship between risk, criminogenic need, and recidivism

for Indigenous justice-involved youth:

A comparative, mixed-methods investigation

A report for the Aboriginal Justice Directorate

Department of Justice Canada

August 17, 2016

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Introduction

Overrepresentation of Indigenous Youth in the Justice System

The overrepresentation of Indigenous peoples in the justice system is a longstanding and ongoing issue (Jackson, 1989; Jeffries & Stenning, 2014; La Prairie, 2002; RCAP, 1996; Rudin, 2005), for Indigenous youth specifically as well (Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Leonard, Olah, & Dilworth, 1999; Milligan, 2008). In 2011, Indigenous youth represented 5.9% of Canada's youth population (Statistics Canada, 2013), and yet constituted 26% of youth admitted to the correctional system (Munch, 2012). The Truth and Reconciliation Commission of Canada identified the overrepresentation of Indigenous youth in custody as a priority issue, calling upon the federal and provincial governments to end this overrepresentation in the next ten years (TRCC, 2015).

The cause of this overrepresentation is a multifaceted and complex question. Research has explored policing practices (Comack, 2012; Linden, 2005), sentencing decisions (Rudin & Zimmerman, 2014; Welsh & Ogloff, 2008), and individual or family circumstances (Corrado, Kuehn, & Margaritescu, 2014) as potential contributing factors. However, there is consensus among researchers and practitioners in the field that the ongoing effects of colonization exert a significant influence on the lives of Indigenous youth.

The question that necessarily follows is how best to combat this pressing issue. While it is important to address the broader socio-political factors (such as racism, poverty, and poor educational opportunities) affecting Indigenous youth before they come in contact with the law, it is equally important to provide support and services to those who are already involved with the justice system, with the goal of ultimately helping them escape the cycle of reoffending.

Therefore, the goal of the present study was to explore how assessment and treatment of risk factors for recidivism are related to outcomes for Indigenous justice-involved youth.

Rehabilitation and Justice: The Risk-Need-Responsivity Model

The goal stated above aligns with the broader philosophy of rehabilitation that guides current research, policy and practice in Canadian corrections (Andrews & Bonta, 2010b). Studies have shown that the “get tough on crime” model of justice, which promotes punishment over prevention and treatment, is ineffective; it is an unsuccessful deterrent sustained at a massive economic cost and at the expense of racialized minorities (Andrews & Bonta, 2010b). The rehabilitative model of justice holds that addressing the factors that trigger and sustain involvement with the legal system can lower crime rates and, ultimately, return individuals to productive participation in society. With this aim in mind, Andrews and colleagues (Andrews, Bonta, & Hoge, 1990) developed the Risk-Need-Responsivity (RNR) model, an evidence-based and internationally applied conceptualization of criminal conduct that evaluates an individual’s risk to reoffend. RNR-based assessments inform sentencing decisions and the development and implementation of case management plans in custody and the community; in this way, the RNR model guides rehabilitation efforts at multiple points in an offender’s trajectory through the justice system.

The RNR framework posits that recidivism can be predicted and reduced by examining factors within offenders and factors within the correctional system, as well as how the two interact (Andrews, Bonta, & Hoge, 1990). The *risk principle* states that as risk to reoffend increases, so should intensity of intervention; higher risk individuals respond optimally to more intensive services, while lower risk individuals respond optimally to less intensive services (Andrews et al., 1990).

The *need principle* asserts that interventions should target individual-level characteristics that are related to offending. Therefore, criminogenic needs (strong and direct predictors of reoffending) should be the intermediate targets of change, as opposed to noncriminogenic needs (weak and/or indirect predictors of reoffending; Andrews & Bonta, 2010a). Eight criminogenic needs have been established as strong predictors of recidivism: history of criminal conduct, family circumstances and parenting, education and/or employment issues, peer relations, substance abuse, leisure and recreational activities, personality and behaviour, and antisocial attitudes and orientation. Of the eight domains, seven represent dynamic criminogenic needs while one (criminal history) is static. Dynamic needs are amenable to change and therefore potential targets of intervention; by contrast, criminal history cannot alter or be addressed through treatment (Andrews & Bonta, 2010a).

Finally, the *responsivity principle* holds that, in order to optimize effectiveness of services directed at criminogenic needs, interventions should be evidence-based (general responsivity principle) and tailored to individual traits and circumstances (specific responsivity principle; Bonta, 1995).

The Relationship between Risk, Need, and Recidivism for Indigenous Youth

The widespread use of risk assessment instruments that may not accurately reflect the risk profile and treatment needs of Indigenous youth has serious implications. On one hand, critical criminologists argue that higher risk scores for Indigenous youth (and adults) are a reflection of the correctional justice system's tendency to 'responsibilize' individuals for systemic social problems and disadvantage (e.g., poverty, lack of educational opportunities and supports for healthy development). The argument continues that 'standard' risk instruments, developed and normed largely with Caucasian males, are products of and therefore perpetuate

this systemic oppression (Hannah-Moffat, 2013; Martel, Brassard, & Jacoud, 2011). As a result, Indigenous offenders are subjected to harsher (lengthier and more stringent) sentencing conditions than non-Indigenous offenders. On the other hand, research cited below has found that risk assessment tools *underreport* reoffending in Indigenous individuals assessed as at 'low risk' to reoffend (Wilson, 2016; Wilson & Gutierrez, 2014), suggesting that there may be other factors not captured by existing measures that, if left unaddressed, will perpetuate criminal behaviour. A third consideration is that if certain criminogenic needs do not predict offending behaviour for Indigenous youth, then significant resources are being invested in areas that will not necessarily improve outcomes. For these reasons, it is imperative to continue to examine the extent to which risk factors identified in the RNR model apply to Indigenous youth.

Although the RNR model is highly influential within Canadian corrections (Hannah-Moffat & Maurutto, 2003; Ogloff & Davis, 2004), research on its applicability to Indigenous youth is scarce. The small body of literature to date indicates that Indigenous youth have significantly higher total risk scores (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012) and higher recidivism rates (Luong & Wormith, 2011; Rojas & Gretton, 2007) than non-Indigenous youth. Compared to their non-Indigenous peers, Indigenous youth have been found to score higher on the specific risk domains of peers, substance use, and leisure/recreation (Jung & Rawana, 1999; Olver et al., 2012), as well as criminal history and education (Olver et al., 2012). However, the presence of higher scores in one group compared to another on a given variable does not imply that the variable is a more potent predictor of outcome (e.g., reoffending) in one group than another; in other words, the fact that a particular 'risk factor' is more prevalent or acute in one group does not tell us about whether that risk factor predicts outcome equally well in both groups.

Turning to studies that have examined risk prediction, research to date indicates that risk assessment measures significantly predict recidivism for Indigenous justice-involved youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver, Stockdale, & Wormith, 2009), although there is evidence that they are *less predictive* of reoffending than for non-Indigenous youth (Luong & Wormith, 2011). Indeed, one recent study reported that the risk assessment *underestimated* reoffending in low and moderate risk Indigenous youth (Wilson, 2016). A similar pattern emerges in studies of Indigenous adults and youth, where measures significantly predict recidivism, but some scales – criminal history, antisocial attitude, and substance use – have lower predictive validity for Indigenous individuals (Gutierrez, Wilson, Rugge, & Bonta, 2013) and aggregate risk scores underestimate recidivism for Indigenous individuals classified as low risk (Wilson & Gutierrez, 2014).

There is preliminary evidence suggesting that there are factors outside the central eight criminogenic needs that uniquely define justice-involved Indigenous youth. In a sample of Indigenous adults and youth, history of victimization and emotional problems emerged as significant predictors of recidivism (Gutierrez et al., 2013). In a sample of Indigenous youth, spiritual support from a family member or Elder significantly predicted general recidivism, while spiritual support along with residence on reserve and low community-wellbeing predicted violent recidivism (Wilson, 2016).

From this small body of literature, it is not yet clear whether Indigenous justice-involved youth have a distinct risk profile or whether risk assessment measures have equal predictive validity for Indigenous and non-Indigenous youth. Moreover, while it had been demonstrated that receiving intervention targeted at criminogenic needs predicts and reduces recidivism (Peterson-Badali, Skilling, & Haqanee, 2015; Vieira, Peterson-Badali, & Skilling, 2009),

providing strong support for the rehabilitative efficacy of the RNR model, there is no research to date on whether this relationship holds for Indigenous youth. The present study aimed to attenuate the knowledge gaps around these important questions.

The authors adopted a mixed-methods approach, pairing secondary data analysis with firsthand accounts gathered from those working directly with justice-involved youth. It was reasoned that a qualitative component would complement and support interpretation of the quantitative findings. Moreover, frontline workers possess expert knowledge and insight that is not captured by quantitative instruments. For example, in a study examining how probation officers conceptualize and address criminogenic needs, participants revealed that they directly target needs that can indirectly lead to improvement in other domains (e.g., enforcing school attendance to ameliorate use of leisure time and choice of peers); a high impact need was thus determined based on its 'spillover' effect and not necessarily on the results of a formal risk assessment (Haqanee, Peterson-Badali, & Skilling, 2015).

The overall objective of the present study was to examine outcomes for Indigenous justice-involved youth compared to their non-Indigenous peers by exploring how risk levels, criminogenic needs, and addressing identified needs through probation case management and referral to services related to recidivism in these groups. Within this overall objective, the study addressed three core research questions: 1) Determine whether Indigenous and non-Indigenous youth differ significantly in terms of: level of risk, number or type of criminogenic needs, extent to which identified needs are addressed through service ('service match'), and rates of recidivism; 2) Ascertain to what extent the variables of risk and service match predict recidivism for Indigenous and non-Indigenous youth and whether they differentially predict recidivism for these two groups; and 3) Establish whether these quantitative measures are consistent with the

qualitative experiences of justice system service providers. In answering these questions, this paper contributes to our understanding of whether and how the prevailing framework for assessing and managing risk applies in theory and works in practice for Indigenous youth.

Method

Quantitative Analysis

Sample

Data were obtained from the records of 70 youth (37 Indigenous, 33 non-Indigenous) who had been charged with a criminal offense and underwent a court-ordered assessment for sentencing purposes at a children's mental health center in northern Ontario, Canada. Table 1 presents demographic and offence information broken down by Indigenous/non-Indigenous status.

Consistent with overall gender differences observed in the youth justice system, there were more males than females in each group, although the proportions did not differ significantly. Due to the small number of females in the sample – particularly when broken down by Indigenous status, the primary variable of interest – gender was not included as a variable in the analyses. Testing revealed no significant differences between males and females on total risk score, $t(45) = -0.78, p = .44$, number of needs, $t(68) = -0.73, p = .47$, proportion of needs matched to services, $t(67) = 0.01, p = 1.00$, or recidivism, $\chi^2(1, N = 70) = 1.70, p = .19$.

Because scarcity of services in remote areas has been well documented (Nuffield, 2003), information on place of residence was also gathered. As Table 1 shows, place of residence was overwhelmingly urban for the non-Indigenous group, while almost half of the Indigenous youth lived in rural areas (including isolated reserves).

Table 1 – Demographic and offence information by Indigenous status

Variable	Indigenous	Non-Indigenous	Total	t-test/ χ^2 /FET
Age (mean in years)	15.54	15.30	15.43	$t=-0.73, p=.47$
% Gender (n in brackets)				
Male	67.6 (25)	75.8 (25)	71.4 (50)	
Female	32.4 (12)	24.2 (8)	28.6 (20)	
% Residence (n in brackets)				$\chi^2(1)=13.00, p<0.0001$
Urban	51.4 (19)	90.9 (30)	70.0 (49)	
Rural	48.6 (18)	9.1 (3)	30.0 (21)	
% Disposition (n in brackets)				<i>Fisher's Exact Test, p=.41</i>
Secure custody	22.2 (8) ¹	21.2 (7)	21.7 (15)	
Open custody	16.7 (6)	6.1 (2)	11.6 (8)	
Probation	61.1 (22)	72.7 (24)	66.7 (46)	
% Index Offense (n in brackets)				<i>Fisher's Exact Test, p=.34</i>
Administrative	18.9 (7)	18.2 (6)	18.6 (13)	
Non-violent	16.2 (6)	33.3 (11)	24.3 (17)	
Violent (non-sexual)	54.1 (20)	36.4 (12)	45.7 (32)	
Sexual	10.8 (4)	12.1 (4)	11.4 (8)	
% Recidivated (n in brackets)	70.3 (26)	66.7 (22)	68.6 (48)	$\chi^2(1)=0.11, p=.75$
Mean Days to Recidivism for youth who reoffended (n=48)	248.24	297.14	271.13	$t=0.98 p=.33$
% Reoffence Type (n in brackets)				$\chi^2(2)=2.45, p=.30$
Administrative	23.1 (6)	22.7 (5)	22.9 (11)	
Non-violent	34.6 (9)	54.6 (12)	43.8 (21)	
Violent (non-sexual)	42.3 (11)	22.7 (5)	33.3 (16)	
Sexual	0.0 (0)	0.0 (0)	0.0 (0)	

¹ One Indigenous youth was sentenced to five days of secure custody as a stopgap measure while awaiting admission to a mental health facility. This individual was excluded from disposition analyses, leaving a total sample size of n = 69.

Youth were categorised according to the most serious offence for which they were convicted at the disposition relating to the court-ordered assessment. Offences were classified as administration of justice (e.g. failure to comply, escape from custody), nonviolent (e.g. damage to property, public intoxication), violent nonsexual (e.g. robbery, assault), and sexual (e.g. sexual interference, sexual assault). While a greater proportion of Indigenous youth were convicted of violent nonsexual offences and, conversely, a greater proportion of non-Indigenous youth were convicted of nonviolent offences, the difference was not statistically significant ($p = .34$, two-tailed Fisher's exact test). While the same pattern held for reoffence convictions, the difference was again not statistically significant (see Table 1).

All youth received a probation disposition, either immediately following their sentencing (66.7%, $N = 46$) or after a term of secure (21.7%, $N = 15$) or open (11.6%, $N = 8$) custody. We were interested specifically in the community portion of the youths' disposition, when they were under the case management of a probation officer. This involved time spent in open custody and in the community.

Measures

Risk. Youths' risk to reoffend was assessed with the Youth Level of Service Inventory/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011). A standardized and normed instrument derived directly from the RNR framework, the YLS/CMI has moderate to strong internal consistency and interrater reliability (Schmidt, Hoge, & Gomes, 2005) as well as concurrent validity with the Child Behavior Checklist (Schmidt et al., 2005) and Youth Self Report (Skilling & Sorge, 2014), which are widely-used measures of behavior problems in children and adolescents.

To complete the YLS/CMI, information is gathered from youth, parents, collateral sources (e.g. teachers), and from previous reports. Parts I and II consist of a detailed 42-item survey of youth risk and criminogenic needs according to the eight domains identified in the RNR framework. Each of the items is coded present or absent. Items within each of the eight domains are combined to provide a need score that is categorized as low, moderate, or high based on YLS/CMI norms. An overall risk for recidivism score is calculated based on the entire checklist and assigned a corresponding risk category (low, moderate, high, and very high). Responsivity variables (e.g., cognitive functioning, cultural and/or language issues) are coded from Part III of the YLS/CMI.

For the present study, each youth's profile included two assessments with this tool: one completed at the mental health centre and another completed by his/her probation officer (termed a 'Risk Need Assessment', or RNA, in the Ontario youth probation system). We compared the YLS/CMI scores derived from the court-ordered assessment to the probation scores from the RNA that was closest chronologically to the assessment. Although the total scores were strongly correlated, $r = .77, p = <.001$, a paired samples t-test showed that probation officers' total risk scores ($M = 20.99, SD = 8.77$) were significantly higher than clinicians' scores ($M = 18.96, SD = 7.50$), $t(68) = -2.96, p < .001$; however, both average total risk scores fell within the moderate risk range. Only one criminogenic need domain yielded significant differences in professional ratings of risk: probation officers rated family circumstances/parenting as higher risk ($M = 3.30, SD = 1.45$) than the clinicians did ($M = 2.88, SD = 1.58$), $t(68) = -2.33, p = .02$. This indicates that, overall, probation officers and clinicians had similar understandings of what constituted risk factors for the youth in this sample.

Examining the qualitative categories (low, moderate, high, and very high) corresponding to the YLS/CMI total risk scores, clinician and probation officer ratings resulted in different categorizations of the same youth in 34.8% of cases (24 out of 69). All but four of the cases resulted in the probation officer assigning a higher risk categorization than the clinician. Half of the cases involved Indigenous youth and half involved non-Indigenous youth, indicating that no one group was disparately categorized more than the other.

In subsequent analyses, the clinicians' scores alone were used as risk measures, partly for simplicity (with the knowledge that they closely mirrored probation officers' scores), but also because they were gathered at the same time as, and helped to inform, the need profile for each youth (described in the next study measure). Only one set of clinician YLS/CMI scores was missing, leaving a total sample of $n = 69$ for analyses involving risk variables.

Criminogenic need. Each court-ordered assessment concluded with a summary and list of recommendations that highlighted the youth's needs and targets for intervention. These conclusions mapped on to the seven dynamic risk domains of the YLS/CMI, although they also referenced areas outside of its purview (e.g., mental health issues such as depression or anxiety, trauma history, connection to culture and spirituality, mentorship, and life skills acquisition, to name some of the most common). For each of the seven dynamic criminogenic need domains, a need was coded as 'present' if it was mentioned anywhere in the conclusion section of the report – including, but not limited to, the recommendations – or 'absent' if it was not mentioned anywhere in the summary and recommendations section. Criminogenic need was explored separately from YLS/CMI scores in this way because research has shown that offenders with similar risk scores can have very different need profiles (Taxman & Caudy, 2015).

Match to services. Recall that 'service matching' refers to the extent to which youths' identified criminogenic needs were addressed (e.g., via specific programs, intervention services, or through probation case management). Thus, for each youth, each criminogenic need domain in which a need was identified (i.e., coded as 'present'), was coded as 'matched' or 'not matched' based on information provided in probation officer case notes. These case notes document every instance of contact between the probation officer and the youth or anyone connected to the youth (e.g., family members, peers, educators, service providers, etc.). Case notes are used to monitor a youth's adherence to the conditions of his or her sentence and to track progress towards probation goals. Entries include records of conversations with youth clients, summaries of telephone updates from parents, minutes from circle of care planning sessions, reports of program participation and completion from youth-serving agencies, and attendance records from schools, as well as any court appearances or police contact. From this detailed and ongoing account, it is possible to extract information about the intervention that a youth receives over the course of probation.

Based on this data, coding match involved a holistic assessment of both the *quantity* of service (e.g., intensity of an identified treatment program as well as the consistency of youths' attendance) as well as service *quality* (e.g., evidence-based, conducted by trained personnel). An identified need was coded as 'not matched' if there was no mention of intervention or case management activity, if intervention was attempted but the youth attended few sessions, or if a youth had some case management or treatment that was not evidence-based. An identified need was coded as 'matched' if a youth participated consistently in programming (even if it was not considered 'high quality' – e.g., evidence based) or if a youth participated (even moderately) in evidence-based programming or case management.

An 'overall match' variable was also computed by dividing the number of matched domains by the total number of need domains identified as requiring service. For example, if a youth had four criminogenic need domains identified as requiring service and was coded as 'matched' for service in two of those domains, the overall proportion match score would be .50.

Recidivism. Recidivism data were extracted from a national police criminal records database and corroborated by probation case notes. A youth was considered to have reoffended if he/she was convicted within two years of the release date following the initial offence (the one for which the court-ordered assessment was completed). This release date always occurred at sentencing (if the youth was released at court) or after sentencing (if the youth had to complete a term of secure custody), to minimize the impact of court processing time on the data. Any convictions that fell within the first three months following the assessment date were not counted. This three-month period was set aside in order to allow time for services to "kick in," with the reasoning that a youth who reoffends immediately after release to the community has not had an opportunity to have his/her needs addressed.

Recidivism was coded as a binary variable (yes/no) and – for those who reoffended – as a continuous variable (days to reoffence). Days to reoffence was calculated as the number of days the youth was in open custody or in the community and thus had the opportunity to both receive services and to reoffend. This variable was calculated by subtracting the reoffence date from the release date (described above). Time spent in secure custody during that period was also deducted from the time to reoffence. Time in the community was included as an outcome in the study to reflect the multifaceted goals of diversion programming. Although the ultimate objective is to prevent recidivism, exposure to and engagement in life outside of an institutional

setting, with the potential for prosocial relationships and activities, is an important outcome of probation services.

Qualitative Analysis

Theoretical orientation

The Indigenist research paradigm (Longboat, 2008; Ray & Cormier, 2012; Steinhauer, 2002; Weber-Pillwax, 2001; Wilson, 2007, 2008) views research as fundamentally relational, to be consistent with Aboriginal worldviews grounded in the interconnectedness of all life. It was therefore integral to the present study to include the perspectives of those who work with justice-involved youth, as a way of contextualizing our analyses within the lived experience of people in the field, whose knowledge of risk, need, and recidivism could generate novel perspectives and connections beyond the scope of our standardized measures. Considering the influence of risk assessment at multiple points in the judicial process—from sentencing to service delivery—we identified judges, lawyers, youth court workers, probation officers, and community agency workers as key stakeholder groups to approach.

Of course, the most important stakeholders in this process are justice-involved youth themselves. Unfortunately, while efforts were made to reach out to youth through the frontline workers, the limited timeframe of the study prevented the kind of intensive relationship-building necessary to earn the trust of these vulnerable youth. We were therefore unable to include any youth in our qualitative analyses.

Sample

Participants included one youth court judge, one Crown Attorney, three community agency workers, and three probation officers ($N = 8$). Five identified as female and three

identified as male, while seven identified as Caucasian and one identified as Aboriginal. Three participants were over 60 years of age, two were between 50-59 years, two were between 40-49 years, and one was under 30 years of age. Half of the sample ($N = 4$) held a university or college degree, while the other half ($N = 4$) held a post-graduate or professional degree. Participants' experience in their current positions ranged from 4 – 35 years (*median* = 19 years).

Procedure

Through purposive sampling, the primary researcher invited individuals to participate in the study by email, either directly or after initially liaising with management at their institutions (e.g., probation manager at the probation office). Prospective interviewees were emailed an information letter describing the study along with a consent form. Participants either emailed back the signed consent form or provided verbal consent prior to the interview. All interviews were conducted over the phone and all were prefaced by a review of the consent form, regardless of whether a signed copy had been received. Interviews lasted between 60 and 100 minutes ($M = 70.63$). Using the snowball sampling method, interviewees were asked, if they felt comfortable doing so, to suggest names of colleagues who might be interested in participating.

While the primary researcher conducted the interviews, a colleague recorded participants' responses. These transcripts formed the basis for a study of culturally-specific diversion programming for Indigenous youth (Finseth, 2014; Finseth & Peterson-Badali, 2015). The present qualitative investigation involved interpretation of these same transcripts following the thematic analysis approach laid out by Braun and Clarke (2006).

The first step of thematic analysis is to identify the researcher's theoretical framework. In this case, we adopted a top-down orientation, approaching the data with the intention of linking it to the quantitative questions posed in this study. The coder was thus seeking any information

related to the criminogenic needs, service uptake, and recidivism of Indigenous and non-Indigenous youth. Since this qualitative analysis was seen as an opportunity to complement, expand, and even challenge our quantitative findings, any comments related to these points were included. The focus was on the semantic content of the interviews, which were treated as realistic representations of experience. Over the course of multiple readings, sections of text were assigned “codes,” or labels, taken from the transcripts themselves; these were grouped together under broader themes (e.g., the codes “trauma” and “poverty” were subsumed into the theme “underlying issues”). Themes were renamed and rearranged until a final model was reached.

Results

Quantitative Findings – Comparative Analyses

Question 1.a. Do Indigenous and non-Indigenous youth differ in level of risk?

There was no significant difference between Indigenous and non-Indigenous youths’ total risk score. As Table 2 shows, in terms of domain-specific evaluation of risk, two significant differences emerged. Scores in the peer relations domain were significantly higher for Indigenous youth than for non-Indigenous youth. Likewise, Indigenous youth were rated as significantly higher risk in the leisure/recreation domain than their non-Indigenous peers.

Due to the high proportion of rural Indigenous youth, two-way ANOVAs were conducted to examine the effect of Indigenous status and rural residence on the two observed significant elevations in risk. There was no main effect of residency type and no significant interaction between the effects of Indigenous and rural status on peer association risk, $F(1, 65) = .03, p = .86$, or on leisure risk, $F(1, 65) = .09, p = .76$.

Table 2 – Total risk and domain scores for Indigenous and non-Indigenous youth

Variable	Indigenous	Non-Indigenous	Total	t-test
YLS/CMI Mean Scores				
Total Risk	19.59	18.22	18.96	$t=-0.76, p=.45$
Criminal History	1.62	1.31	1.48	$t=-0.81, p=.42$
Family	2.89	2.88	2.88	$t=-0.04, p=.97$
Education/Employment	3.05	3.44	3.23	$t=0.98, p=.33$
Peer	2.65	1.94	2.32	$t=-2.18, p=.03$
Substance Abuse	2.81	2.03	2.45	$t=-1.91, p=.06$
Leisure	1.97	1.47	1.74	$t=-2.67, p=.01$
Personality	2.92	3.47	3.17	$t=1.29, p=.20$
Attitudes	1.68	1.72	1.70	$t=0.12, p=.90$

Question 1.b. Do Indigenous and non-Indigenous youth differ in number and type of criminogenic needs?

Of seven possible dynamic criminogenic need domains that could be identified as requiring service, Indigenous youth had nearly six identified by clinicians, on average ($M = 5.70$, $SD = 1.15$), whereas non-Indigenous youth had five domains identified ($M = 5.09$, $SD = 1.47$), $t(68) = -1.95, p = .05$. In terms of specific criminogenic domains, Indigenous youth were significantly more likely to have needs in the Education and Leisure domains than non-Indigenous youth (see Table 3).

To determine whether the substantially higher number of Indigenous youth from rural areas potentially affected these results, a loglinear analysis was conducted. It revealed no significant interaction between Indigenous status, rural residence, and education need, $\chi^2(1) = 0.00, p = .96$, and no significant interaction between Indigenous status, rural residence, and leisure need, $\chi^2(1) = 1.12, p = .29$.

Table 3 – Need profiles of Indigenous and non-Indigenous youth by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Need-Yes (n in brackets)				
Family/parenting	81.1 (30)	93.9 (31)	87.1 (61)	FET, $p=.16$
Education/employment	94.6 (35)	69.7 (23)	82.9 (58)	$\chi^2(1)=7.61, p=.01$
Peer relations	94.6 (35)	81.8 (27)	88.6 (62)	FET, $p=.14$
Substance abuse	78.4 (29)	60.6 (20)	70.0 (49)	$\chi^2(1)=2.62, p=.11$
Leisure/recreation	81.1 (30)	57.6 (19)	70.0 (49)	$\chi^2(1)=4.59, p=.03$
Personality/behaviour	91.9 (34)	97.0 (32)	94.3 (66)	FET, $p=.62$
Attitudes/orientation	48.6 (18)	48.5 (16)	48.6 (34)	$\chi^2(1)=0.00, p=.99$

Question 1.c. Do Indigenous and non-Indigenous youth differ in match to services?

The two groups did not significantly differ on number of needs matched, $t(67) = 1.04, p = .30$, with Indigenous youth ($M = 1.39, SD = 1.27$) and non-Indigenous youth ($M = 1.73, SD = 1.42$) having, on average, between one and two domains addressed through adequate intervention. Similarly, both groups had comparable overall proportions of needs matched, $t(61) = 1.63, p = .11$, with Indigenous youth getting about one quarter of their needs met ($M = .26, SD = .25$) and non-Indigenous youth getting roughly one-third of their needs met ($M = .37, SD = .32$).

A chi square analysis compared match for both groups domain by domain, to see whether they diverged in kinds of services received (see Table 4). The only significant difference was in the peer domain, with Indigenous youth significantly less likely to have their needs in this area matched compared to non-Indigenous youth, $\chi^2(1, N = 61) = 4.00, p = .05$. Of the 34 Indigenous youth with an identified need in peer association, 27 did not receive sufficient services to address this need.

Table 4 – Proportion of Indigenous and non-Indigenous youth with identified needs matched by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Match-Yes (n in brackets)				
Family/parenting	13.8 (4)	22.6 (7)	18.3 (11)	$\chi^2(1)=0.77$, $p=.38$
Education/employment	11.8 (4)	13.0 (3)	12.3 (7)	FET, $p=1.00$
Peer relations	20.6 (7)	44.4 (12)	31.1 (19)	$\chi^2(1)=3.99$, $p=.05$
Substance abuse	34.5 (10)	40.0 (8)	36.7 (18)	$\chi^2(1)=0.16$, $p=.69$
Leisure/recreation	20.7 (6)	26.3 (5)	22.9 (11)	FET, $p=.73$
Personality/behaviour	51.5 (17)	62.5 (20)	56.9 (37)	$\chi^2(1)=0.80$, $p=.37$
Attitudes/orientation	11.1 (2)	12.5 (2)	11.8 (4)	FET, $p=1.00$

Question 1.d. Do Indigenous and non-Indigenous youth differ in recidivism rates?

As shown in Table 1, the recidivism rate for the whole sample was 68.6%, with 70.3% of Indigenous youth reoffending and 66.7% of non-Indigenous youth reoffending, $\chi^2(1, N = 70) = .11$, $p = .75$. For those youth who did reoffend, time to reoffence did not significantly differ by Indigenous status.

Quantitative Findings – Predictive Analyses

There is some evidence for gender differences in risk, need, and responsivity among justice-involved youth (Plattner et al., 2009; Vitopoulos, Peterson-Badali, & Skilling, 2012; Woodson, Hives, & Sanders-Phillips, 2010). As a result, it is important to examine possible gender effects in analyses. However, due to the small number of females in the sample (especially when broken down by Indigenous/non-Indigenous group; see Table 1) it was not possible to include gender as a variable alongside Indigenous group in the analyses. In order to go some distance in addressing the question of gender differences, analyses were conducted with the sample as a whole as well as with males only in order to examine whether results differed with and without females included. Using total risk and proportion match as predictors, logistic

regressions with recidivism as the outcome and survival analysis with time to reoffence as the outcome were conducted. The pattern of results was the same with or without the females in the sample: significant findings remained significant and non-significant findings remained non-significant. The analyses presented below are based on the full sample.

Question 2.a. Does YLS/CMI level of risk predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

YLS/CMI total risk scores were significantly higher for youth who reoffended ($M = 20.52$, $SD = 6.63$) than for those who did not ($M = 15.38$, $SD = 8.28$), $t(67) = 2.74$, $p = .01$. To test the YLS/CMI's predictive validity for the sample as a whole, a Receiver Operating Characteristic (ROC) analysis was conducted. The area under the curve (AUC) statistic was significant (0.68 , $p = .02$), indicating that the model classified the sample significantly better than by chance; at a 95% confidence interval (CI), there was a 68% probability that a randomly selected recidivist would obtain a higher YLS/CMI score than a randomly selected non-recidivist (CI range = 0.53-0.83).

In order to examine whether the relationship between total risk and reoffence differs depending on Indigenous vs. non-Indigenous status, a hierarchical logistic regression was conducted with total YLS/CMI risk score entered at Step 1, Indigenous status entered at Step 2, and the interaction of risk score with Indigenous status entered at Step 3. Total risk score was the only significant predictor in the model, Wald $\chi^2(1) = 4.55$, $p = .03$, odds ratio (OR) = .89, 95% CI = .80 to .99; for every one unit increase on the YLS/CMI, the odds of reoffending increased by 9%. Indigenous status did not contribute significantly to the model, Wald $\chi^2(1) = .24$, $p = .63$, and neither did the Indigenous status by total risk score interaction term, Wald $\chi^2(1) = .25$, $p = .62$.

Question 2.b. Does the extent to which youths' identified criminogenic needs are addressed ('service match') predict recidivism for Indigenous and non-Indigenous youth and does this differ between groups?

There was a trend such that the overall proportion of identified criminogenic needs that were 'matched' during youths' sentences was higher for youth who did not reoffend ($M = 40\%$, $SD = 32\%$) than for those who did ($M = 27\%$, $SD = 27\%$), $t(67) = -1.73$, $p = .09$.

In order to examine whether service matching predicted reoffending after taking youths' risk scores into account, a hierarchical logistic regression was conducted, with youths' criminal history scores² entered at Step 1, Indigenous status and proportion service match scores entered at Step 2, and the interaction of proportion match with Indigenous status entered at Step 3. The overall model was not significant at any of the steps, $\chi^2(4) = 6.18$, $p = .19$, and none of the individual predictors were significant: proportion match, Wald $\chi^2(1) = 1.88$, $p = .17$, Indigenous status, Wald $\chi^2(1) = .20$, $p = .65$, and the interaction term, Wald $\chi^2(1) = .82$, $p = .37$.

Question 2.c. Do YLS/CMI level of risk and match to services predict time to reoffence for Indigenous and non-Indigenous youth and does this differ between groups?

The other dependent variable of interest in the present study was how long youth who eventually reoffended ($n = 48$) were able to remain in the community. One would expect that youth who scored higher on the YLS/CMI (i.e., higher risk youth) would spend a shorter amount of time on probation before reoffending. Due to the non-parametric distribution of the data representing days in the community for the whole sample ($p < .005$, Shapiro-Wilk Test) and for both groups ($p < .05$, Shapiro-Wilk Test), a Spearman's rank-order correlation was used for these

² Criminal History was used instead of the YLS/CMI total risk score because the proportion match variable entered in step two of the analysis is derived from the youth's YLS-identified criminogenic needs. The clinician recommendations used to calculate proportion match overlap with the domain scores that constitute the YLS total score; inclusion of the latter in the model would thus take away from the variance explained by proportion match. Criminal History was deemed an appropriate substitute measure of risk due to its strong correlation with total YLS/CMI risk scores in this sample, $r(69) = .58$, $p < .0001$.

analyses. For the sample in its entirety, the relationship between YLS/CMI total score and time in the community was not significant, ($r_s = -.20, n = 47, p = .18$). Similarly, at the group level, total risk and time in the community were not significantly associated for Indigenous youth ($r_s = -.29, n = 25, p = .17$) or non-Indigenous youth ($r_s = -.13, n = 22, p = .57$).

With respect to match to services, it was anticipated that a higher proportion of needs matched would be associated with a longer period before reoffence. A Spearman's rank-order correlation demonstrated a robust positive correlation, ($r_s = .50, n = 47, p < .0001$), such that as proportion match increased, so did the time that a youth lasted in the community. Group comparison revealed that this effect was due to the Indigenous youth in the sample, for whom this positive relationship was strong and significant, ($r_s = .64, n = 25, p < .005$). Although proportion match was not significantly associated with time in the community for non-Indigenous youth, the data showed a trend in this direction ($r_s = .37, n = 22, p = .09$).

A Cox regression was used to examine the relationship between the predictor variables – criminal history, match to services, and Indigenous status – and time to reoffence for the whole sample. Youths' criminal history scores were entered in Step 1 to control for risk. The results of this analysis indicated that a youth's risk score did not significantly predict time to reoffence, $\chi^2(1, N = 68) = 0.91, p = .34$. However, adding proportion match resulted in a statistically significant model, $\chi^2(1) = 4.57, p = .03$, such that for every 'unit' increase in match, a youth's likelihood of reoffending decreased by 77.7%. After controlling for risk and match, inclusion of Indigenous status did not add any significant prediction to the model, $\chi^2(1) = 0.05, p = .83$.

Given that risk level did not directly predict time in the community, it was hypothesized that match to services could be moderating this relationship (i.e., the impact of risk would vary as a function of the proportion of needs matched). It was postulated that match could be acting as

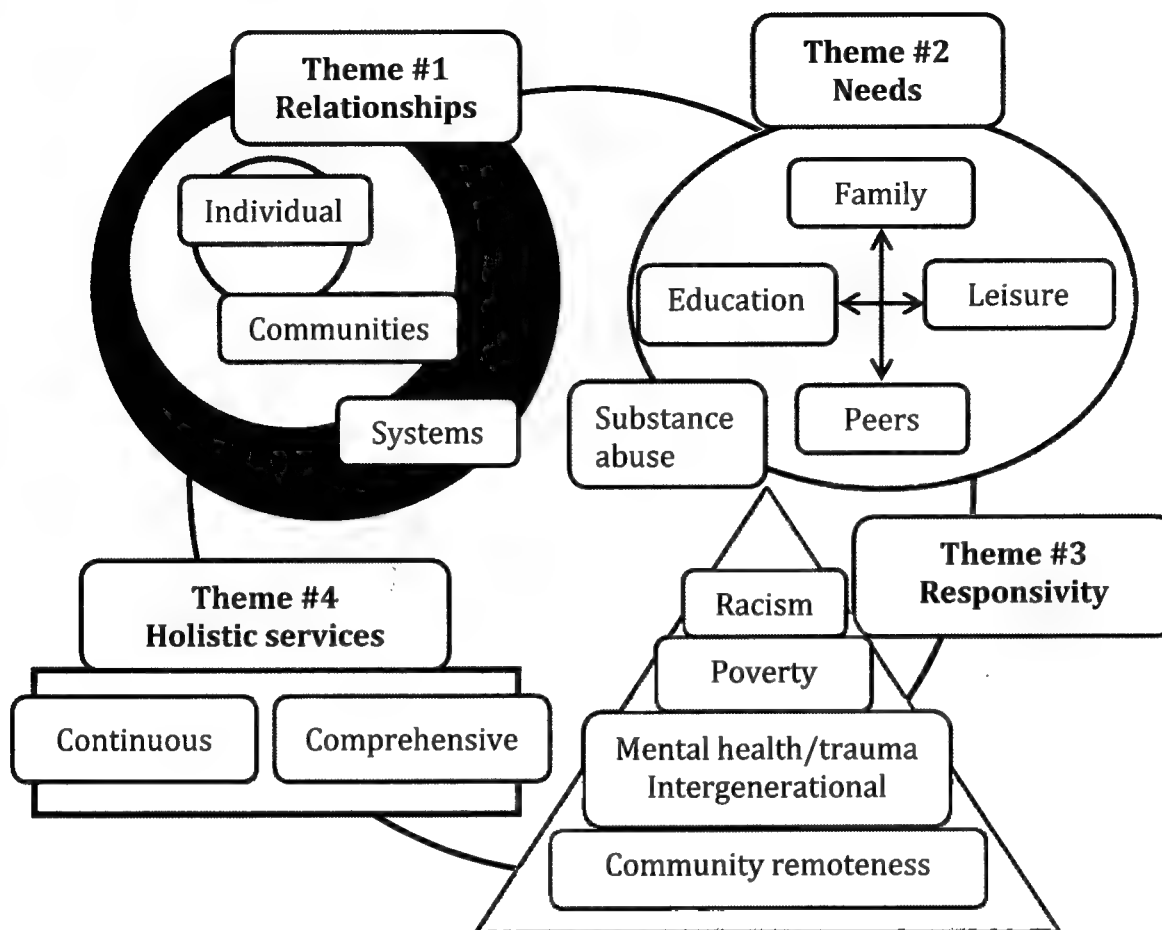
a 'buffer': at high levels of match, risk would not be significantly related to time to reoffence, while at low levels of match, risk would have greater bearing on a youth's survival time.

However, moderated multiple regression analyses were not significant: in the whole sample ($\Delta R^2 = .00$, $F(1, 43) = .05$, $p = .83$), the Indigenous group alone ($\Delta R^2 = .02$, $F(1, 21) = .07$, $p = .80$), and the non-Indigenous group alone ($\Delta R^2 = .02$, $F(1, 18) = .08$, $p = .78$), including proportion of needs matched as a moderator did not account for a significant amount of variance in time to reoffence.

Qualitative Findings

The following four themes emerged from our interviews with justice system personnel and community agency workers (see Figure 1).

Figure 1 – Study Themes



Theme one: Relationships

All eight participants talked about the importance of relationships to the functioning of the justice system in general, to the effectiveness of their work in particular, and to the outcomes of individual youth.

Beginning with relationships at a systems level, seven of the interviewees discussed the relationship between Indigenous and non-Indigenous concepts and instruments of justice. Specifically, they described how Indigenous knowledge and traditions should be and are integrated into mainstream judicial institutions. From a philosophical perspective, this included questioning the purpose and utility of incarceration and examining the goals of probation; from a practical perspective, this included holding restorative justice circles at the courthouse and

engaging in cultural teachings at the custody facilities. Participants observed that Indigenous practices benefit Indigenous and non-Indigenous individuals alike. As Respondent 3 put it, *“Things need to be inclusive rather than segregated. I don’t think there needs to be a mainstream OR a traditional. I feel like we’re always fighting this Us against Them. But it should be that traditional elements are infused into mainstream. I mean there are so many things that everyone would benefit from – like the seven teachings.”* Community agency workers expressed that they invest significant effort in raising awareness and uptake of Indigenous-specific services; justice system personnel showed a corresponding knowledge of and willingness to refer to these services.

Another critical relationship, raised by four participants, is the one between justice system representatives and Indigenous communities. Community members were seen as holders of knowledge, whose understanding of the histories, resources, and struggles within their communities could inform not only how to help individual youth, but also how to make diversion and probation services more culturally responsive. Two of the interviewees shared how being physically present in the communities is fundamental for learning and forming meaningful ties: *“I was flying into very remote communities and I had to develop trust... There was nothing like sitting on someone’s porch and just talking”* (Respondent 6). These participants also emphasized the diversity among communities that would render any blanket approach to the administration of justice insensitive and ineffective. As Respondent 1 shared, *“Our native colleagues and scholars say, ‘I can speak for me and maybe for my community – but I can’t speak for any other community.’”*

All of the probation officers and community agency workers spoke of the relationships that youth forge with them and other service providers. A strong connection was instrumental to

engagement in services: *“Biggest part of my job is building a relation, connect[ing] with them; how can I show them that I genuinely care about them getting better and healing and that it’s not just a referral I got, I want them to be a successful member of my community”* (Respondent 3).

Interviewees talked about meeting youth where they are, both metaphorically, by addressing needs that youth are ready to work on, and literally, by being with them in their own spaces out in the community. The words “person-centred,” “supportive,” and “strengths-based” were used to describe the prevailing mode of interaction. At the same time, participants stated that they bring direction and structure to the relationship; consistency was identified as particularly important for justice-involved youth, whose past experiences are often marked by unstable relationships and unpredictable living situations. Just as diversity was stressed at a community level, so was it underscored at the individual level: *“Each kid is very different. Everyone is unique, and I treat them like that. There’s no cookie cutter approach for me”* (Respondent 6).

One service provider suggested that in Indigenous-specific services, the capacity for individual relationship-building is even greater: compared to mainstream programs, which strive to efficiently target a particular need, Indigenous programs invest time in getting to know the whole person. Relatedly, a second participant noted that Indigenous-specific services delve more deeply into personal issues, requiring greater commitment and involvement from the youth. This is consistent with the observation of a third participant that culturally sensitive services also allow Indigenous youth to cultivate better relationships with themselves. Through exposure to Indigenous teachings, traditions, and role models, youth can begin or continue to explore their own Indigeneity and their place within Indigenous and non-Indigenous worlds.

Theme two: Needs

Participants touched on five areas of criminogenic need, noting ways in which some of these domains are especially problematic for Indigenous youth. Every interviewee mentioned family support as a (and perhaps the most) crucial factor in determining any youth's trajectory through the system. Respondent 3 summed it up this way: *"I would say the biggest thing is that support system. If they have buy-in from parents, teachers, and they can connect with someone—an Elder, a healthy sibling, peers—someone who can continually support them over time, the ones who are successful are those who find that support."* Two people identified family risk factors that they often find for Indigenous youth, such as parental FASD or lack of parenting skills, which they connected to longstanding issues stemming from colonization.

For four participants, education was a critical area requiring intervention. Two interviewees mentioned that they see Indigenous youth struggling to see the value of the education system – perhaps due to the legacy of residential schools – resulting in poor motivation and engagement. For two other interviewees, the school system itself was a barrier, unable to accommodate the learning needs of justice-involved youth in general, who often struggle academically: *"The education system works as a silo. It doesn't work with us. Most of our kids are not your average students... We need trade schools... For me, a kid who's gained some skills and knowledge is going to be a better member of the community"* (Respondent 7).

Four interviewees flagged ongoing negative peer association as a defining feature of youth, including Indigenous youth, who remain in the system. One participant perceived Indigenous youth as feeling caught between their Indigenous and non-Indigenous peers, uncertain where to form friendships. Two participants described gang membership as the logical endpoint for Indigenous youth with no family or other support network, illustrating how the criminogenic needs can intersect.

Three participants mentioned constructive use of leisure time as a protective factor, although not as a pressing area of need, contrary to our quantitative findings. One interviewee pointed out that in remote communities with no recreational activities, boredom leads youth into trouble. However, discussion of leisure time again revealed the extent to which the criminogenic needs are interconnected. As Respondent 3 put it, *“if the education system is pushing them out, where do you think they’ll end up? The justice system picks them up. What else will they do with their time?”*

All eight participants identified substance abuse as a pervasive problem for all justice-involved youth, placing it alongside lack of social support as a major predictor of continued involvement with the courts: *“if they haven’t conquered that yet, then that will keep them on a path that will keep them in the system”* (Respondent 7). While one interviewee observed chronic substance abuse at younger ages among Indigenous youth, the overall consensus was that this is a challenge across the board.

Theme three: Responsivity

References to “underlying” issues or problems came up in three interviews, referring to the factors influencing youths’ completion of diversion and probation programming. (In the RNR model, these would be responsivity factors.) For four participants, significant mental health issues were a concern, particularly for Indigenous youth. Three participants mentioned trauma as another crucial consideration, two speaking specifically of Indigenous youth. One person explicitly referred to intergenerational trauma as an added layer of need for Indigenous youth, while two other interviewees stressed the importance of taking intergenerational context into account: *“I recognize this more and more, but a lot of these issues are historic family issues, it’s generational. I can think of one family where I’ve had five of their children [as clients]. I now*

have grandchildren. Children of children of children that I had when I first started' (Respondent 7).

Half of participants saw poverty as barrier to service for many youth, with those from remote reserves being particularly disadvantaged. Financial insecurity, in turn, restricts housing options, with youth getting stuck in low-income neighbourhoods, where they are exposed to other risks, or couch-surfing between family members and friends, in which case they are harder to track down for programming. As Respondent 3 explained, "*[There is a] two-year waitlist to get a house. So even if you have issues that come up and you want to move and better yourself, it's next to impossible.*" For three interviewees, limited access to transportation was another correlate of poverty and another barrier to treatment, although one individual indicated that organizations in Thunder Bay address this proactively by providing youth with rides and bus tickets. One person pointed out that, as a result of coming from disadvantaged and dysfunctional environments, youth lack basic, practical skills for daily functioning and that there is a need for life skills programming. Indeed, this was a common recommendation in the court assessments for this sample. Taxman and colleagues propose that mental health, socioeconomic status, housing, transportation, and life skills can be conceptualized as *systemic* responsivity factors that influence individuals' response to intervention; termed 'destabilizers,' these variables determine the extent to which a person can attend and engage in treatment, thereby indirectly affecting recidivism (Taxman, 2014; Taxman & Caudy, 2015).

Two participants stated that Indigenous youth face the additional obstacle of racism, which magnifies the stigma they already face as justice-involved individuals.

Six interviewees described the unique circumstances and needs of Indigenous youth from remote reserves who come to Thunder Bay, usually to attend high school. Some described these

youth as having a hard time adjusting to city life, trying to physically and socially navigate an unfamiliar space with unfamiliar rules; this geographic and psychological dislocation makes them susceptible to involvement with the law: *“That’s something that has really struck me—the kids from the far north who migrate into the cities are the most vulnerable that we see here, the most likely to be in the justice system”* (Respondent 5). If youths’ families cannot afford to come with them to Thunder Bay, they are placed with boarding families whom they may not know. If youth are from ‘dry’ communities, they can become overwhelmed by the easy access to substances in the city. On-reserve education does not necessarily prepare youth for provincial public high school, resulting in academic difficulties and failure. With these examples, participants demonstrated how an Indigenous youth’s community of origin can have implications for multiple criminogenic domains and put them at risk for repeated offending.

Theme four: Holistic service

The issue of how to address these difficulties brings us back to what participants said about the benefits of Indigenous teachings and services: a holistic approach. From the perspectives of four participants, diversion and probation programming needs to be comprehensive and continuous: it sees the youth as embedded in a context, involving members of the youth’s family and community in treatment, and it goes beyond crisis management to include follow-up care. To quote Respondent 3, *“You can’t take a youth away from a bad environment and work with them and then send them back... We look at the family and the situation around them as being very important.”* Participants described this kind of ecological, wrap-around service as implemented in some cases, but in need of more widespread application.

Discussion

Risk and Criminogenic Needs in Indigenous and non-Indigenous Youth

Indigenous and non-Indigenous youth did not significantly differ in terms of overall risk to reoffend, which runs contrary to previous findings that Indigenous youth score significantly higher on aggregate risk (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012). When examined at the domain level, Indigenous youth in the present study did score significantly higher on risk in the domains of peer association and leisure time, which is consistent with prior research (Olver, Stockdale, & Wong, 2012; Jung & Rawana, 1999). Whether they reside in small, remote communities or in larger towns and cities, Indigenous youths' social participation (which relates both to peer affiliations and opportunities for prosocial leisure activities) may be limited. In the wake of seven deaths of First Nations youth in Thunder Bay, the Ontario First Nations Young Peoples Council conducted a survey of over 100 Indigenous youth from across Ontario. Youth reported that they found it difficult to make friends off-reserve when they left to attend school (due to racism), while at the same time losing touch with friends who stayed on-reserve (OFNYPC, 2016). Youth in Winnipeg, Manitoba reported similar difficulties making friends with non-Indigenous peers, resulting in an insular experience of urban community (Belanger et al., 2003). Alluding to this very phenomenon, one of our interviewees described Indigenous youth as "*caught in the middle*" between Indigenous and non-Indigenous communities. Moreover, urban Indigenous youth have been described as a highly mobile population, who may move within cities (as well as between cities and their home communities) multiple times for school, work, health, and other socioeconomically motivated reasons (Baskin, 2007; Brown et al., 2005). This has clear implications for their ability to sustain social networks and recreational commitments. Indeed, one of the probation officers interviewed

for the present study identified such transience as a barrier to getting Indigenous youth connected to services.

Although both groups in our sample had comparable numbers of criminogenic needs overall, Indigenous youth were significantly more likely to have clinician-identified needs in the education and leisure domains, a finding that was not a function of where they lived (i.e., urban vs. rural communities). Virtually all Indigenous youth in our sample (94.6%) had needs in the education domain and 81.1% had needs in the leisure domain. These figures reflect broader challenges in schooling and recreation facing Indigenous youth across the country. Indeed, the education gap between Indigenous and non-Indigenous Canadians has been described as one of the nation's greatest public policy challenges (Richards, 2008). For First Nations and Metis individuals living off-reserve, 60% of men and 75% of women between the ages of 20 and 24 have a high school diploma; for non-Indigenous Canadians, this figure ranges from 84-91%, depending on the province (Richards, 2008). For the on-reserve Indigenous population, the divide is even more pronounced, with only 35.3% of individuals completing high school (Rosenbluth & Drummond, 2013).

With regard to leisure needs, research conducted with Indigenous youth across Canada has identified numerous barriers to participating in organized recreational activity, including lack of infrastructure and programming, limited access to transportation, pervasive underfunding, and continued racism (Brown et al., 2005; Mason & Koehli, 2012). Interviews conducted by one of the authors of the present study (Lockwood) in remote reserves in Ontario found similar themes: youth were frustrated by the lack of facilities and activities in their communities, citing boredom as a major obstacle to health and wellness (Mamow Ki Ken Da Ma Win: Searching Together, 2014a, 2014b).

Addressing Identified Needs in Indigenous and non-Indigenous Youth

Overall, number and proportion of criminogenic needs matched to services did not differ between groups. On average, the youth in this sample had about one third of their needs met ($M = 31.3\%$, $SD = 29.3\%$), a proportion comparable to that found in other studies (Peterson-Badali et al., 2015; Vieira et al., 2009). However, examining needs within the individual criminogenic need domains revealed that Indigenous youth were significantly less likely to have their peer association needs met; while 95% of Indigenous youth had a need identified in this domain, only 21% had it adequately addressed. As proposed above, it is possible that the social isolation experienced by Indigenous youth is not as easily resolved as for non-Indigenous youth. Traditional methods for addressing peer-related needs, such as encouraging school attendance or extra-curricular pursuits, may be hindered by the racism (Mason & Koehli, 2012; OFNYPC, 2016) and poverty (Abele & Delic, 2014; Latimer & Foss, 2004; Wilson & MacDonald, 2010) that Indigenous youth are likely to experience. Gang membership among Indigenous youth is likewise intertwined with issues of discrimination and disadvantage (Ogilvie & Eggleton, 2013; Sinclair & Grekul, 2012; Totten, 2009).

Reoffending in Indigenous and non-Indigenous Youth

Finally, recidivism rates did not differ between the two groups, even when controlling for criminal history. This is not consistent with previously published work indicating that Indigenous youth reoffend at significantly higher rates than their non-Indigenous peers (Luong & Wormith, 2011; Rojas & Gretton, 2007).

Predicting Reoffending in Indigenous and Non-Indigenous Youth

First, we discovered significant agreement between clinicians and probation officers when assessing overall and domain-specific risk. This suggests that service providers and justice

system personnel are using the instrument in similar ways, which is helpful for interagency and interdisciplinary collaboration.

Exploration of the YLS/CMI's predictive validity showed that the total risk score reliably distinguished recidivists from non-recidivists in the sample as a whole and predicted recidivism in Indigenous and non-Indigenous youth at comparable rates. These results are consistent with findings from the literature that the YLS/CMI significantly predicts recidivism for Indigenous youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver et al., 2009).

Match to services did not emerge as a significant predictor of recidivism in either group. It is possible that the low baseline rates of match meant that services were not intensive enough in a sufficient number of domains to influence reoffending. On the other hand, match to services was a significant predictor of time to reoffence, even when controlling for risk. This was the case for Indigenous and non-Indigenous youth alike. This lends support to the Need Principle of the RNR framework: addressing a higher percentage of youth's identified needs with appropriate services kept youth in the community longer – an important intermediary goal of probation.

Qualitative Findings

Interviews with eight justice system personnel and community agency representatives were captured under four overarching themes. Participants highlighted the importance of cultivating relationships—between Indigenous and non-Indigenous philosophies and practices, between legal bodies and Indigenous communities, and between justice-affiliated personnel and the individual youth they serve. It was suggested that these relationships are especially beneficial for Indigenous youth because they occur within culturally tailored services that enable them to explore their identity. Interviews with three Indigenous probation clients in another Canadian

city revealed that their relationships with frontline workers made them feel supported and encouraged them to continue with programming (Finseth, 2014; Finseth & Peterson-Badali, 2015).

Interviewees identified several ways in which Indigenous youths' criminogenic needs have an added layer of complexity that can be connected to underlying social and historical factors. Lack of supervision from parents and lack of trust and investment in the education system could reflect ongoing repercussions of the residential school era; affiliation with gangs could reflect a search for both identity and family. While all of these risk factors are captured in the RNR framework (and in RNR-based measures of risk such as the YLS/CMI), these reflections suggest that they do not manifest in the same way for Indigenous and non-Indigenous youth. Similar discussions have arisen in the research literature on gender and criminogenic risk (e.g., Vitopoulos, 2016).

Respondents also described Indigenous youth from a responsivity perspective: their identified challenges could be seen as manifestations of intergenerational trauma, unfolding within an enduring context of socioeconomic disadvantage and racism. Yessine and Bonta (2009) found a similar constellation of issues in their study of chronic offending among Indigenous and non-Indigenous youth: family interaction, peer association, and substance abuse predicted persistent criminal conduct for the former group but not for the latter. The authors connected these factors to the more severe poverty in the Indigenous group, which likely precipitated the breakdown of family support and adoption of unhealthy relationship and coping choices. Findings such as these, and the information provided by our interview sample, provide possible explanations for the elevated risk in the peer and leisure domains and the identified needs in education and leisure observed in our quantitative analyses.

Given the interrelated and entrenched nature of these issues, participants championed holistic rehabilitation of justice-involved youth, with programs that can include the youth's community and that can follow the youth over time. Scholars have made similar arguments for more collectively grounded programming, which moves beyond individually oriented 'rehabilitation' towards community-based healing (Cunneen, 2011).

Limitations and Future Directions

The present study had a small sample size, which affects the generalizability of its findings. Given this caveat, and the fledgling state of research in this area in general, replication with a larger sample is required. The authors are in the process of gathering data from Ontario for this purpose. However, as pointed out by our interviewees, the diversity among Indigenous communities requires particular attention to regional variation. Replications in other parts of the country are therefore also essential.

Secondly, this study focused exclusively on criminogenic needs within the RNR framework. However, there is theoretical and qualitative scholarship suggesting that colonization has created a distinctive set of circumstances for Aboriginal individuals that are not adequately reflected in existing risk assessment measures (Hannah-Moffat, 2013; Martel et al., 2011). Factors such as disconnection from traditional culture and spirituality (Ellerby & McPherson, 2002), life on reserves (Hannah-Moffat & Maurutto, 2003), and intergenerational trauma related to attendance at residential schools (Mann, 2009) have been proposed as unique experiences influencing the lives of Aboriginal peoples, including their criminal behaviour. In the court-ordered assessments for the present sample, individual and family trauma were common treatment targets emphasized in the recommendations. Indeed, a recent study indicates that measures of family cohesion, residence on reserves, and community well-being increased the

predictive validity of the YLS/CMI for Indigenous youth (Wilson, 2016). Further investigation of additional, culturally distinct factors affecting recidivism in this population is critical.

At the same time, careful consideration – in collaboration with Indigenous researchers, practitioners, and community members – needs to be given to whether and how any such ‘culturally-specific’ factors are incorporated into assessment, case management, and intervention programs for justice-involved Indigenous youth. In particular, couching systemic problems and disadvantage affecting Indigenous youth within the language of ‘risk’ (e.g., adding new ‘risk factors’ to RNR-based assessment tools) – even if these add to the predictive accuracy of such instruments – has the appearance (if not the effect) of ‘responsibilizing’ individuals for the legacy of colonization and the many disadvantages experienced by Indigenous individuals and communities. Thus, in addition to exploring the variables that may be more potently associated with reoffending for Indigenous than non-Indigenous youth, we also need to give careful consideration to what framing of those issues is most likely to benefit youth – and to avoid doing what may seem like ‘valid’ research (or policymaking or programming) that results in additional harms. Taxman’s concept of systemic responsivity (Taxman, 2014; Taxman & Caudy, 2015) may provide a useful lens through which to consider possible culturally-specific factors

Thirdly, due to the small sample size of the qualitative portion of the present study, generalization should likewise be treated with caution. Moreover, as our interviewees emphasized, any generalization with communities as diverse as the ones they serve is problematic. Nevertheless, the interviews did indicate valuable avenues for future research. Participants shared information indicating that Indigenous youths’ criminogenic needs have additional dimensions that differentiate them from non-Indigenous clients. Unpacking ‘standard’ RNR domains of criminogenic risk (e.g., ‘family circumstances/parenting’, ‘education’, and

‘peers’) to understand how they may look different and operate differently for Indigenous youth is an important task for practitioners (who do this in an individualized way when they work with their clients), but also for designing policies and programs to meet youths’ needs and to support rehabilitation as well as broader positive outcomes.

Participants provided anecdotal support for the efficacy of Indigenous-specific diversion programming, but evaluations of such programs are scarce. Studies of culturally tailored treatment are mostly qualitative or quasi-experimental, with incarcerated adult Indigenous samples; they reveal high levels of engagement and satisfaction among program participants (Heckbert & Turkington, 2001; Trevethan, Crutcher, & Rastin, 2002; Trevethan, Moore, & Allegri, 2005; Zellerer, 2003) but no improvement in recidivism (Trevethan et al., 2002; Trevethan et al., 2005). For Indigenous youth and adults alike, we need a better of understanding of how culturally tailored services are being delivered, whether they affect recidivism, and, if so, what components of those programs are the active ingredients of change. Preliminary research suggests that Indigenous-specific programming treats the same needs identified in the RNR framework, but approaches them differently from mainstream programming (Finseth, 2014); further exploration of the extent to which culturally sensitive services overlap with restorative justice frameworks and with the RNR model is warranted.

Our interview participants also emphasized the importance of addressing systemic responsivity variables in improving outcomes for youth; a sample of justice system personnel and service providers in Toronto, Ontario made the same point, highlighting housing, mental health, and transience as key targets of intervention for their Indigenous youth clients (Finseth, 2014; Finseth & Peterson-Badali, 2015). These consistent findings indicate the value of exploring

the impact of treating systemic responsivity factors on recidivism among Indigenous youth; to date, no quantitative investigations of this association have been conducted.

Finally, researchers need to engage with former and current probation clients themselves, to hear from their perspectives what facilitates and interferes with completing their diversion programming. Scholarship has stressed the importance of seeking out and heeding the voices of Indigenous individuals especially, given their continued marginalization (Cunneen, 2011). There are a handful of studies profiling the experiences of Indigenous youth and young adults with gang membership (Grekul & LaBoucane-Benson, 2009), community reintegration (Brown et al., 2005), custody (Latimer & Foss, 2004), and culturally-specific diversion services (Finseth, 2014; Finseth & Peterson-Badali, 2015), but, to our knowledge, no comprehensive discussion of the diversion process and outcomes. Although Indigenous youth were not included in the present study, the authors acknowledge the necessity of their involvement in any diversion program planning, delivery, and evaluation. Building relationships with and seeking the views of Indigenous youth will be a key element of the follow-up work to this research.

Summary and Conclusion

In the present sample of youth assessed in Thunder Bay, Ontario, we found that Indigenous youth were not assessed as at greater risk to reoffend than non-Indigenous youth, contrary to prior research, although they did score as higher risk on indicators of peer relations and leisure pursuits. Indigenous youth were also significantly more likely to have needs identified in the education and leisure domains. While this does not constitute a unique need profile, since it did not result in a unique offending pattern, it does point to areas where more services are required. Indeed, Indigenous youth were significantly less likely to have their peer-

related needs met, which indicates that this is one area of intervention that requires especially careful consideration in this population. However, it is also worth noting that Indigenous and non-Indigenous youth did not significantly differ in *overall* match to services. In addition, they did not differ in recidivism rates, which is an encouraging outcome given that previous studies have found higher recidivism rates among Indigenous youth (Luong & Wormith, 2011; Rojas & Gretton, 2007).

The YLS/CMI predicted recidivism equally well for Indigenous and non-Indigenous youth, providing further evidence of the instrument's cross-cultural predictive validity. However, it remains to be seen whether adding culturally relevant variables (such as intergenerational trauma or community well-being) will improve the accuracy and sensitivity of the measure. Match to services did not predict recidivism for either group, although it did significantly predict time to reoffence for all youth in the sample: youth who had more of their needs matched lasted longer without incurring new charges. This illustrates the value of addressing criminogenic needs through active case management and referral to services for all justice-involved youth.

Frontline workers from the justice system and the community shared insights into the pivotal role of relationships, at institutional and individual levels, in improving outcomes for Indigenous youth. They noted that collaboration with Indigenous communities, as sites of knowledge and leadership, can generate localized and more effective forms of restorative justice. They observed that the criminogenic needs in this population are complicated by systemic responsivity factors—including poverty, trauma, and racism—that are most effectively addressed by long-term, holistic treatment.

In addition to replication of the present study with larger and cross-national samples, more information is needed about a) why and in what ways education, leisure, and peers are such

high areas of need for Indigenous youth; b) how Indigenous youth are and can be more effectively engaged in services, especially in those high-intensity domains and especially from the perspectives of youth themselves; c) whether treating systemic responsivity variables improves outcomes for Indigenous youth; d) what culturally specific factors can contribute to assessment and prediction of risk in this population; and e) whether and how culturally specific services contribute to better outcomes for Indigenous justice-involved youth.

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³ This report belongs to Nibinamik First Nation. This information is available at the discretion of the community.

⁴ This report belongs to Neskantaga First Nation. This information is available at the discretion of the community.

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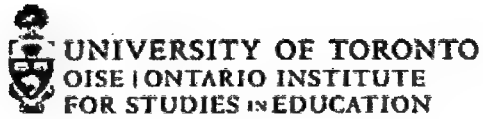
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Appendix A: Description of the YLS/CMI Assessment of Risks and Needs

Domain	Description of items	Sample items
Criminal history	Conviction, custody, and probation history	a. Three or more prior convictions b. Two or more failures to comply
Family	Relationship, supervision, and parenting difficulties	a. Inappropriate discipline b. Difficulty controlling behavior
Education/employment	Attendance, achievement, and behaviour issues	a. Disruptive classroom behaviour b. Truancy
Peer relations	Presence of antisocial and absence of prosocial relationships	a. Some delinquent friends b. No/few positive friends
Substance abuse	Degree of substance abuse problems, from least to most intrusive	a. Occasional drug use b. Chronic drug use
Leisure/recreation	Lack of interests and organized pursuits	a. Limited organized activities b. Could make better use of time
Personality/behaviour	Aggression, egotism, and poor impulse and emotion regulation	a. Inflated self-esteem b. Poor frustration tolerance
Attitudes/orientation	Callousness, defiance, and antisocial beliefs	a. Actively rejecting help b. Defies authority



The relationship between risk, criminogenic need, and recidivism
for Indigenous justice-involved youth:
A comparative, mixed-methods investigation

A report for the Aboriginal Justice Directorate
Department of Justice Canada

EXECUTIVE SUMMARY

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Introduction

The overrepresentation of Indigenous youth in the justice system is a longstanding and ongoing issue (Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Leonard, Olah, & Dilworth, 1999; Milligan, 2008). In 2011, Indigenous youth represented 5.9% of Canada's youth population (Statistics Canada, 2013), and yet constituted 26% of youth admitted to the correctional system (Munch, 2012). While it is important to address the broader socio-political factors affecting Indigenous youth before they come in contact with the law, it is equally important to provide support and services to those who are already involved with the justice system, with the goal of ultimately helping them escape the cycle of reoffending. Therefore, the goal of the present study was to explore how assessment and treatment of risk factors for recidivism are related to outcomes for Indigenous justice-involved youth.

The Risk-Need-Responsivity (RNR) model is an evidence-based conceptualization of criminal conduct that evaluates an individual's risk to reoffend. RNR-based assessments inform sentencing decisions and the development and implementation of case management plans in custody and the community; in this way, the RNR model guides rehabilitation efforts at multiple points in an offender's trajectory through the justice system.

The RNR framework posits that recidivism can be predicted and reduced by examining factors within offenders and factors within the correctional system, as well as how the two interact (Andrews, Bonta, & Hoge, 1990). The *risk principle* states that as risk to reoffend increases, so should intensity of intervention (Andrews et al., 1990). The *need principle* asserts that interventions should target individual-level characteristics that are directly related to offending (Andrews & Bonta, 2010). Eight criminogenic needs have been established as strong predictors of recidivism: history of criminal conduct, family circumstances and parenting, education and/or employment issues, peer relations, substance abuse, leisure and recreational activities, personality and behaviour, and antisocial attitudes and orientation (Andrews & Bonta, 2010). Finally, the *responsivity principle* holds that, in order to optimize effectiveness of services directed at criminogenic needs, interventions should be evidence-based (general responsivity principle) and tailored to individual traits and circumstances (specific responsivity principle; Bonta, 1995).

Although the RNR model is highly influential within Canadian corrections (Hannah-Moffat & Maurutto, 2003; Ogloff & Davis, 2004), research on its applicability to Indigenous

youth is scarce. It is not yet clear whether Indigenous justice-involved youth have a distinct risk profile or whether risk assessment measures have equal predictive validity for Indigenous and non-Indigenous youth. Moreover, while it had been demonstrated that receiving intervention targeted at criminogenic needs predicts and reduces recidivism (Peterson-Badali, Skilling, & Haqanee, 2015; Vieira, Peterson-Badali, & Skilling, 2009), there is no research to date on whether this relationship holds for Indigenous youth.

Objective

The overall objective of the present study was to examine outcomes for Indigenous justice-involved youth compared to their non-Indigenous peers by exploring how risk levels, criminogenic needs, and addressing identified needs, through probation case management and referral to services, related to recidivism in these groups. The authors adopted a mixed-methods approach, reasoning that a qualitative component would complement and support interpretation of the quantitative findings. Moreover, frontline workers possess expert knowledge and insight that is not captured by quantitative instruments. Within the overall objective, the study addressed three core research questions:

- 1) Do Indigenous and non-Indigenous youth differ significantly in terms of: level of risk, number or type of criminogenic needs, extent to which identified needs are addressed through service ('service match'), and rates of recidivism?
- 2) To what extent do the variables of risk and service match predict recidivism for Indigenous and non-Indigenous youth and do they differentially predict recidivism for these two groups?
- 3) Are these quantitative measures consistent with the qualitative experiences of justice system service providers?

In answering these questions, this paper contributes to our understanding of whether and how the prevailing framework for assessing and managing risk applies in theory and works in practice for Indigenous youth.

Method

Quantitative Analysis

Sample

Data were obtained from the records of 70 youth (37 Indigenous, 33 non-Indigenous) who had been charged with a criminal offense and underwent a court-ordered assessment for sentencing purposes at a children's mental health center in northern Ontario, Canada. Table 1 presents demographic and offence information broken down by Indigenous/non-Indigenous status.

Measures

Risk. Through the court-ordered assessment, youths' risk to reoffend was assessed with the Youth Level of Service Inventory/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002, 2011), a detailed 42-item survey of youth risk and criminogenic needs organized according to the eight domains identified in the RNR framework. Domain and overall risk for recidivism scores are calculated and assigned a corresponding risk category (low, moderate, high, and very high).

Criminogenic need. Each court-ordered assessment concluded with a summary and list of recommendations that highlighted the youth's needs and targets for intervention. For each of the seven dynamic criminogenic need domains, a need was coded as 'present' if it was mentioned anywhere in the conclusion section of the report or 'absent' if it was not mentioned anywhere in the summary and recommendations section. Criminogenic need was explored separately from YLS/CMI scores in this way because research has shown that offenders with similar risk scores can have very different need profiles (Taxman & Caudy, 2015).

Match to services. For each youth, each criminogenic need domain in which a need was identified (i.e., coded as 'present'), was coded as 'matched' or 'not matched' based on information provided in probation officer case notes. Coding match involved a holistic assessment of both the *quantity* of service (e.g., intensity of an identified treatment program as well as the consistency of youths' attendance) as well as service *quality* (e.g., evidence-based, conducted by trained personnel). An 'overall match' variable was also computed by dividing the number of matched domains by the total number of need domains identified as requiring service.

Table 1 – Demographic and offence information by Indigenous status

Variable	Indigenous	Non-Indigenous	Total	t-test/ χ^2 /FET
Age (mean in years)	15.54	15.30	15.43	$t=-0.73, p=.47$
% Gender (n in brackets)				
Male	67.6 (25)	75.8 (25)	71.4 (50)	
Female	32.4 (12)	24.2 (8)	28.6 (20)	
% Residence (n in brackets)				$\chi^2(1)=13.00, p<0.0001$
Urban	51.4 (19)	90.9 (30)	70.0 (49)	
Rural	48.6 (18)	9.1 (3)	30.0 (21)	
% Disposition (n in brackets)				<i>Fisher's Exact Test, p=.41</i>
Secure custody	22.2 (8) ¹	21.2 (7)	21.7 (15)	
Open custody	16.7 (6)	6.1 (2)	11.6 (8)	
Probation	61.1 (22)	72.7 (24)	66.7 (46)	
% Index Offense (n in brackets)				<i>Fisher's Exact Test, p=.34</i>
Administrative	18.9 (7)	18.2 (6)	18.6 (13)	
Non-violent	16.2 (6)	33.3 (11)	24.3 (17)	
Violent (non-sexual)	54.1 (20)	36.4 (12)	45.7 (32)	
Sexual	10.8 (4)	12.1 (4)	11.4 (8)	
% Recidivated (n in brackets)	70.3 (26)	66.7 (22)	68.6 (48)	$\chi^2(1)=0.11, p=.75$
Mean Days to Recidivism for youth who reoffended (n=48)	248.24	297.14	271.13	$t=0.98 p=.33$
% Reoffence Type (n in brackets)				$\chi^2(2)=2.45, p=.30$
Administrative	23.1 (6)	22.7 (5)	22.9 (11)	
Non-violent	34.6 (9)	54.6 (12)	43.8 (21)	
Violent (non-sexual)	42.3 (11)	22.7 (5)	33.3 (16)	
Sexual	0.0 (0)	0.0 (0)	0.0 (0)	

¹ One Indigenous youth was sentenced to five days of secure custody as a stopgap measure while awaiting admission to a mental health facility. This individual was excluded from disposition analyses, leaving a total sample size of n = 69.

Recidivism. Recidivism data were extracted from a national police criminal records database and corroborated by probation case notes. A youth was considered to have reoffended if he/she was convicted within two years of the release date (either at court or from secure custody) following the initial offence (the one for which the court-ordered assessment was completed). Any convictions within the first three months following the assessment date were not counted, in order to allow time for services to “kick in.” Recidivism was coded as a binary variable (yes/no) and – for those who reoffended – as a continuous variable (days to reoffence). Days to reoffence was calculated as the number of days the youth was in open custody or the community, and thus had the opportunity to both receive services and to reoffend, minus time spent in secure custody.

Qualitative Analysis

Sample

Participants included one youth court judge, one Crown Attorney, three community agency workers, and three probation officers ($N = 8$). Five identified as female and three identified as male, while seven identified as Caucasian and one identified as Aboriginal. Three participants were over 60 years of age, two were between 50-59 years, two were between 40-49 years, and one was under 30 years of age. Half of the sample ($N = 4$) held a university or college degree, while the other half ($N = 4$) held a post-graduate or professional degree. Participants' experience in their current positions ranged from 4 – 35 years (*median* = 19 years). Unfortunately, while efforts were made to reach out to justice-involved youth, we were unable to build the relationships needed to solicit their participation within the limited timeframe of the study.

Procedure

All interviews were conducted over the phone and lasted between 60 and 100 minutes ($M = 70.63$). While the primary researcher conducted the interviews, a colleague recorded participants' responses. Using thematic analysis (Braun and Clarke, 2006), transcripts were scanned for any information related to the criminogenic needs, service uptake, and recidivism of Indigenous and non-Indigenous youth. Over multiple readings, sections of text were assigned “codes,” or labels, taken from the transcripts themselves; these were grouped together under

broader themes (e.g., the codes “trauma” and “poverty” were subsumed into the theme “underlying issues”). Themes were renamed and rearranged until a final model was reached.

Key Findings

Quantitative Results – Comparative Analyses

Indigenous youth were not assessed as higher risk overall, but did score higher on peer- and leisure-related risk than non-Indigenous youth.

Indigenous and non-Indigenous youth did not significantly differ in terms of overall risk to reoffend, which runs contrary to previous findings that Indigenous youth score significantly higher on aggregate risk (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver, Stockdale, & Wong, 2012). When examined at the domain level (see Table 2), Indigenous youth in the present study did score significantly higher on risk in the domains of peer association and leisure time, which is consistent with prior research (Olver et al., 2012; Jung & Rawana, 1999).

Whether they reside in small, remote communities or in larger towns and cities, Indigenous youths’ social participation (which relates both to peer affiliations and opportunities for prosocial leisure activities) may be limited. Urban and rural Indigenous youth report difficulty making friends with non-Indigenous peers due to racism and cultural differences (Belanger et al., 2003; OFNYPC, 2016). Moreover, urban Indigenous youth have been described as a highly mobile population, who may move within cities (as well as between cities and their home communities) multiple times for school, work, health, and other socioeconomically motivated reasons (Baskin, 2007; Brown et al., 2005). This has clear implications for their ability to sustain social networks and recreational commitments.

Table 2 – Total risk and domain scores for Indigenous and non-Indigenous youth

Variable	Indigenous	Non-Indigenous	Total	t-test
YLS/CMI Mean Scores				
Total Risk	19.59	18.22	18.96	$t=-0.76, p=.45$
Criminal History	1.62	1.31	1.48	$t=-0.81, p=.42$
Family	2.89	2.88	2.88	$t=-0.04, p=.97$
Education/Employment	3.05	3.44	3.23	$t=0.98, p=.33$
Peer	2.65	1.94	2.32	$t=-2.18, p=.03$
Substance Abuse	2.81	2.03	2.45	$t=-1.91, p=.06$
Leisure	1.97	1.47	1.74	$t=-2.67, p=.01$

Personality	2.92	3.47	3.17	$t=1.29, p=.20$
Attitudes	1.68	1.72	1.70	$t=0.12, p=.90$

Indigenous and non-Indigenous youth did not differ on number of identified needs, but Indigenous youth were significantly more likely to have needs relating to education and leisure.

Although both groups in our sample had comparable numbers of criminogenic needs overall, Indigenous youth were significantly more likely to have clinician-identified needs in the education and leisure domains, a finding that was not a function of where they lived (i.e., urban vs. rural communities). Virtually all Indigenous youth in our sample (94.6%) had needs in the education domain and 81.1% had needs in the leisure domain (see Table 3). These figures reflect broader challenges in schooling and recreation facing Indigenous youth across the country. Indeed, the education gap between Indigenous and non-Indigenous Canadians has been described as one of the nation's greatest public policy challenges (Richards, 2008). For First Nations and Metis individuals living off-reserve, 60% of men and 75% of women between the ages of 20 and 24 have a high school diploma; for non-Indigenous Canadians, this figure ranges from 84-91%, depending on the province (Richards, 2008). For the on-reserve Indigenous population, the divide is even more pronounced, with only 35.3% of individuals completing high school (Rosenbluth & Drummond, 2013).

With regard to leisure needs, research conducted with Indigenous youth across Canada has identified numerous barriers to participating in organized recreational activity, including lack of infrastructure and programming, limited access to transportation, pervasive underfunding, and continued racism (Brown et al., 2005; Mason & Koehli, 2012).

Table 3 – Need profiles of Indigenous and non-Indigenous youth by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Need-Yes (n in brackets)				
Family/parenting	81.1 (30)	93.9 (31)	87.1 (61)	FET, $p=.16$
Education/employment	94.6 (35)	69.7 (23)	82.9 (58)	$\chi^2(1)=7.61, p=.01$
Peer relations	94.6 (35)	81.8 (27)	88.6 (62)	FET, $p=.14$
Substance abuse	78.4 (29)	60.6 (20)	70.0 (49)	$\chi^2(1)=2.62, p=.11$
Leisure/recreation	81.1 (30)	57.6 (19)	70.0 (49)	$\chi^2(1)=4.59, p=.03$
Personality/behaviour	91.9 (34)	97.0 (32)	94.3 (66)	FET, $p=.62$

Attitudes/orientation 48.6 (18) 48.5 (16) 48.6 (34) $\chi^2(1)=0.00, p=.99$

***Indigenous and non-Indigenous youth do not differ
in the proportion of their needs met through services.
However, Indigenous youth are significantly less likely to have their peer needs met.***

Overall, number and proportion of criminogenic needs matched to services did not differ between groups. On average, the youth in this sample had about one third of their needs met ($M = 31.3\%$, $SD = 29.3\%$), a proportion comparable to that found in other studies (Peterson-Badali et al., 2015; Vieira et al., 2009). However, examining needs within the individual criminogenic need domains revealed that Indigenous youth were significantly less likely to have their peer association needs met (see Table 4); while 95% of Indigenous youth had a need identified in this domain, only 21% had it adequately addressed. As proposed above, it is possible that the social isolation experienced by Indigenous youth is not as easily resolved as for non-Indigenous youth. Traditional methods for addressing peer-related needs, such as encouraging school attendance or extra-curricular pursuits, may be hindered by the racism (Mason & Koehli, 2012; OFNYPC, 2016) and poverty (Abele & Delic, 2014; Latimer & Foss, 2004; Wilson & Macdonald, 2010) that Indigenous youth are likely to experience. Gang membership among Indigenous youth is likewise intertwined with issues of discrimination and disadvantage (Ogilvie & Eggleton, 2013; Sinclair & Grekul, 2012; Totten, 2009).

Table 4 – Proportion of Indigenous and non-Indigenous youth with identified needs matched by domain

Variable	Indigenous	Non-Indigenous	Total	χ^2 /FET
% Match-Yes (n in brackets)				
Family/parenting	13.8 (4)	22.6 (7)	18.3 (11)	$\chi^2(1)=0.77, p=.38$
Education/employment	11.8 (4)	13.0 (3)	12.3 (7)	FET, $p=1.00$
Peer relations	20.6 (7)	44.4 (12)	31.1 (19)	$\chi^2(1)=3.99, p=.05$
Substance abuse	34.5 (10)	40.0 (8)	36.7 (18)	$\chi^2(1)=0.16, p=.69$
Leisure/recreation	20.7 (6)	26.3 (5)	22.9 (11)	FET, $p=.73$
Personality/behaviour	51.5 (17)	62.5 (20)	56.9 (37)	$\chi^2(1)=0.80, p=.37$
Attitudes/orientation	11.1 (2)	12.5 (2)	11.8 (4)	FET, $p=1.00$

Recidivism rates did not differ between Indigenous and non-Indigenous youth.

Finally, recidivism rates and time to reoffence did not differ between the two groups (see Table 1), even when controlling for youths' prior criminal history. This is not consistent with previously published work indicating that Indigenous youth reoffend at significantly higher rates than their non-Indigenous peers (Luong & Wormith, 2011; Rojas & Gretton, 2007).

Quantitative Results – Predictive Analyses

The YLS/CMI predicted risk equally well for Indigenous and non-Indigenous youth.

Exploration of the YLS/CMI's predictive validity showed that the total risk score reliably distinguished recidivists from non-recidivists in the sample as a whole and predicted recidivism in Indigenous and non-Indigenous youth at comparable rates. These results are consistent with findings from the literature that the YLS/CMI significantly predicts recidivism for Indigenous youth (Jung & Rawana, 1999; Luong & Wormith, 2011; Olver et al., 2012; Olver, Stockdale, & Wormith, 2009).

Match to services did not predict recidivism in either group, but did significantly predict time to reoffence in both groups.

Match to services did not emerge as a significant predictor of recidivism in either group. It is possible that the low baseline rates of match meant that services were not intensive enough in a sufficient number of domains to influence reoffending.

On the other hand, match to services was a significant predictor of time to reoffence, even when controlling for risk: for every 'unit' increase in the proportion service match variable, a youth's likelihood of reoffending decreased by 77.7%. This was the case for Indigenous and non-Indigenous youth alike. This lends support to the Need Principle of the RNR framework: addressing a higher percentage of youth's identified needs with appropriate services kept youth in the community longer – an important intermediary goal of probation.

Qualitative Results

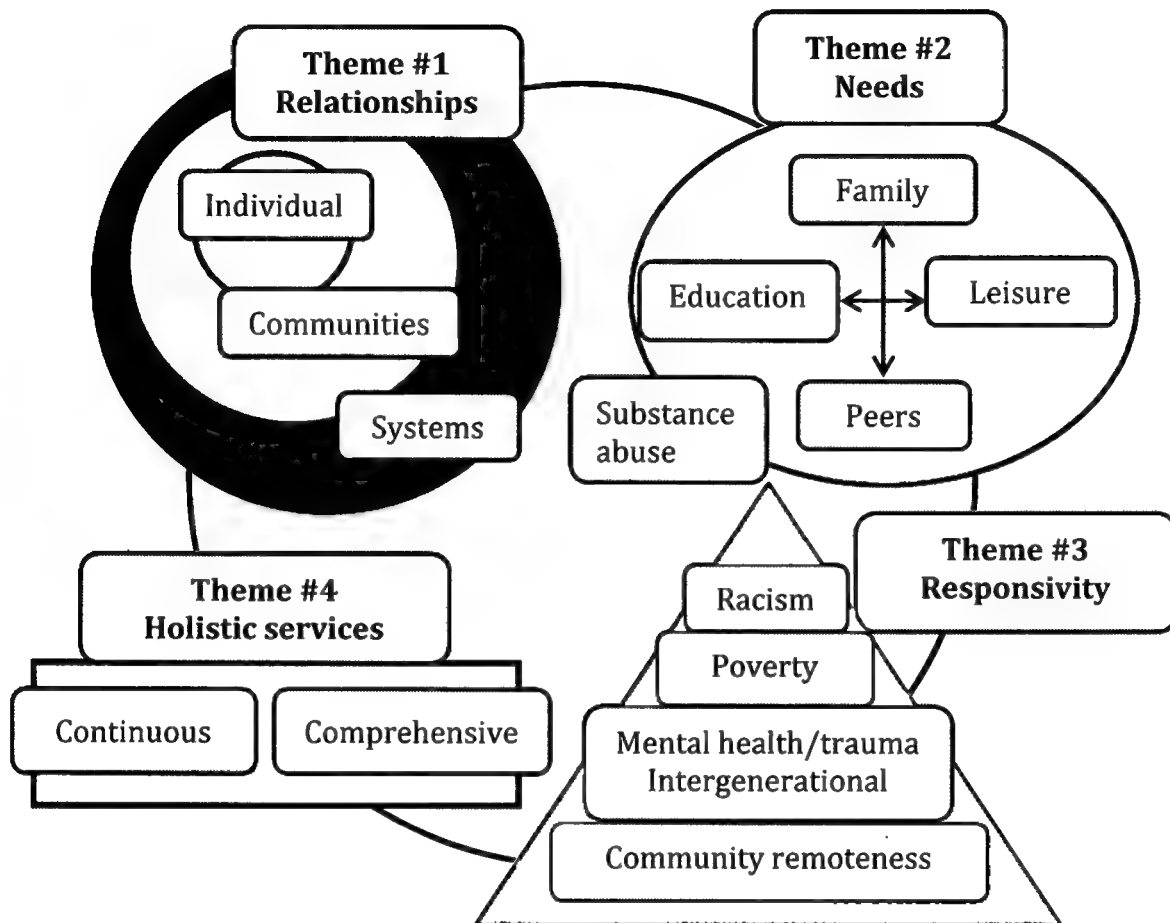


Figure 1 – Study Themes

Theme #1:
Relationships - at the systemic, community, and individual level - are critical to improving outcomes for Indigenous youth.

Participants highlighted the importance of cultivating relationships—between Indigenous and non-Indigenous philosophies and practices, between legal bodies and Indigenous communities, and between justice-affiliated personnel and the individual youth they serve. Interviewees described how Indigenous teachings and traditions are and should be integrated into mainstream judicial institutions, observing that they benefit Indigenous and non-Indigenous individuals alike. They noted that collaboration with Indigenous communities can generate localized and more effective forms of restorative justice. Participants also emphasized the

diversity among communities that would render any blanket approach to the administration of justice insensitive and ineffective.

At a personal level, all of the probation officers and community agency workers observed that forming a strong connection with youth was instrumental to their engagement in services, which needed to be tailored to the unique profile of each youth. Indeed, interviews with three Indigenous probation clients in another Canadian city revealed that their relationships with frontline workers made them feel supported and encouraged them to continue with programming (Finseth, 2014). Service providers in the present study noted that Indigenous-specific services are more relationally oriented, dedicating more time to relationship-building, delving deeper into personal issues, and creating opportunities for youth to explore their cultural identity.

Theme #2:

Indigenous youths' criminogenic needs have additional dimensions that differentiate them from non-Indigenous clients.

Participants touched on five areas of criminogenic need, noting ways in which some of these domains are especially problematic for Indigenous youth. Every interviewee mentioned family support as a (and perhaps the most) crucial factor in determining any youth's trajectory through the system. Two people identified family risk factors that they often find for Indigenous youth, such as parental FASD or lack of parenting skills, which they connected to longstanding issues stemming from colonization.

For four participants, education was a critical area requiring intervention. Two interviewees mentioned that they see Indigenous youth struggling to see the value of the education system – perhaps due to the legacy of residential schools – resulting in poor motivation and engagement. For two other interviewees, the school system itself was a barrier, unable to accommodate the learning needs of justice-involved youth in general.

Four interviewees flagged ongoing negative peer association as a defining feature of youth, including Indigenous youth, who remain in the system. One participant perceived Indigenous youth as feeling caught between their Indigenous and non-Indigenous peers, uncertain where to form friendships. Two participants described gang membership as the logical endpoint for Indigenous youth with no family or other support network.

Three participants mentioned constructive use of leisure time as a protective factor, although not as a pressing area of need, contrary to our quantitative findings.

All eight participants identified substance abuse as a pervasive problem for all justice-involved youth, placing it alongside lack of social support as a major predictor of continued involvement with the courts.

While all of these risk factors are captured in the RNR framework (and in RNR-based measures of risk such as the YLS/CMI), these reflections suggest that they do not manifest in the same way for Indigenous and non-Indigenous youth. (Similar discussions have arisen in the research literature on gender and criminogenic risk; e.g., Vitopoulos, 2016). Unpacking 'standard' RNR domains of criminogenic risk (e.g., 'family circumstances/parenting', 'leisure', and 'peers') to understand how they may 'look different' and operate differently for Indigenous youth is an important task for practitioners (who do this in an individualized way when they work with their clients), but also for designing policies and programs to meet youths' needs and to support rehabilitation as well as broader positive outcomes.

Theme #3:
Indigenous youths' criminogenic needs are embedded within systemic responsivity factors, including poverty, trauma, racism, and life on isolated reserves.

In terms of factors influencing youths' completion of diversion and probation programming, significant mental health issues (including trauma) were a concern, particularly for Indigenous youth. One person explicitly referred to intergenerational trauma as an added layer of need for Indigenous youth.

Half of participants saw poverty as barrier to service for many youth, with Indigenous youth from remote reserves being particularly disadvantaged. Financial insecurity, in turn, restricts housing options and limits access to transportation, which both interfere with participation in treatment. Yessine and Bonta (2009) identified poverty as a critical variable in their study of chronic offending among Indigenous and non-Indigenous youth: family interaction, peer association, and substance abuse predicted persistent criminal conduct for the former group but not for the latter. The authors connected these factors to the more severe poverty in the Indigenous group, which likely precipitated the breakdown of family support and adoption of unhealthy relationship and coping choices. Findings such as these, and the

information provided by our interview sample, provide possible explanations for the elevated risk in the peer and leisure domains and the identified needs in education and leisure observed in our quantitative analyses.

Two participants stated that Indigenous youth face the additional obstacle of racism, which magnifies the stigma they already face as justice-involved individuals.

Six interviewees described the unique circumstances and needs of Indigenous youth from remote reserves who come to Thunder Bay, usually to attend high school. These youth are often separated from their families, overwhelmed with unprecedented exposure and access to drugs, and unprepared for the demands of mainstream public high school. With these examples, participants demonstrated how an Indigenous youth's community of origin can have implications for multiple criminogenic domains and put them at risk for repeated offending.

Theme #4:

The interconnected and entrenched nature of the problems faced by Indigenous youth requires holistic treatment that is comprehensive and continuous.

The issue of how to address these difficulties brings us back to what participants said about the benefits of Indigenous teachings and services: a holistic approach. From the perspectives of four participants, diversion and probation programming needs to be comprehensive and continuous: it goes beyond the individual to involve members of the youth's family and community, and it goes beyond crisis management to include follow-up care. Participants described this kind of ecological, wrap-around service as implemented in some cases, but in need of more widespread application.

Implications & Future Directions

Action Item #1:

Replication with larger, cross-national samples

Both the quantitative and qualitative components of the present study had small sample sizes, which affects the generalizability of its findings. Given this caveat, and the fledgling state of research in this area in general, replication with larger samples is required. The authors are in the process of gathering data from Ontario for this purpose. However, as pointed out by our interviewees, the diversity among Indigenous communities requires particular attention to regional variation. Replications in other parts of the country are therefore also essential.

***Action Item #2:
Exploring areas of high need for Indigenous youth***

Ours is now the third study to find that Indigenous youth are assessed as higher risk in the peer and leisure domains (Jung & Rawana, 1999; Olver et al., 2012). Olver and colleagues (2012) also reported that Indigenous youth scored as higher risk in education, which was a need area reported in the court-ordered assessments significantly more for the Indigenous youth in our sample. This calls for closer examination of which particular elements of these domains are problematic for Indigenous youth and how these domains are currently targeted in treatment.

***Action Item #3:
Examining culturally specific factors***

This study focused exclusively on criminogenic needs within the RNR framework. However, there is theoretical and qualitative scholarship suggesting that colonization has created a distinctive set of circumstances for Aboriginal individuals that are not adequately reflected in existing risk assessment measures (Hannah-Moffat, 2013; Martel, Brassard, & Jaccoud, 2011). Factors such as disconnection from traditional culture and spirituality (Ellerby & McPherson, 2002), life on reserves (Hannah-Moffat & Maurutto, 2003), and intergenerational trauma related to attendance at residential schools (Mann, 2009) have been proposed as unique experiences influencing the lives of Aboriginal peoples, including their criminal behaviour. In the court-ordered assessments for the present sample, individual and family trauma were common treatment targets emphasized in the recommendations. Indeed, a recent study indicates that measures of family cohesion, residence on reserves, and community well-being increased the predictive validity of the YLS/CMI for Indigenous youth (Wilson, 2016). Other research has found that risk assessment tools *underreport* reoffending in Indigenous individuals assessed as at 'low risk' to reoffend (Wilson, 2016; Wilson & Gutierrez, 2014), suggesting that there may be additional factors not captured by existing measures that, if left unaddressed, will perpetuate criminal behaviour. Further investigation of culturally distinct factors associated with recidivism in this population is critical.

However, careful consideration – in collaboration with Indigenous researchers, practitioners, and community members – needs to be given to whether and how any such

‘culturally-specific’ factors are incorporated into assessment, case management, and intervention programs for justice-involved Indigenous youth. In particular, couching systemic problems and disadvantage affecting Indigenous youth within the language of ‘risk’ (e.g., adding new ‘risk factors’ to RNR-based assessment tools) – even if these add to the predictive accuracy of such instruments – has the appearance (if not the effect) of ‘responsibilizing’ individuals for the legacy of colonization and the many and ongoing disadvantages experienced by Indigenous individuals and communities. Thus, in addition to exploring the variables that may be more potently associated with reoffending for Indigenous than non-Indigenous youth, we also need to give careful consideration to what framing of those issues is most likely to benefit youth – and to avoid doing what may seem like ‘valid’ research (or policymaking or programming) that results in additional harms. Taxman’s concept of systemic responsiveness (Taxman, 2014; Taxman & Caudy, 2015) may provide a useful lens through which to consider possible culturally-specific factors (see Action Item #5).

Action Item #4:
Evaluating the efficacy and mechanisms of change of culturally specific services

Interviewees provided anecdotal support for the efficacy of Indigenous-specific diversion programming, but evaluations of such programs are scarce. Studies of culturally tailored treatment are mostly qualitative or quasi-experimental, with incarcerated adult Indigenous samples; they reveal high levels of engagement and satisfaction among program participants (Heckbert & Turkington, 2001; Trevethan, Crutcher, & Rastin, 2002; Trevethan, Moore, & Allegri, 2005; Zellerer, 2003) but no improvement in recidivism (Trevethan et al., 2002; Trevethan et al., 2005). For Indigenous youth and adults alike, we need a better of understanding of how culturally tailored services are being delivered (process evaluation), whether they affect recidivism (outcome evaluation), and, if so, what components of those programs are the active ingredients of change. Preliminary research suggests that Indigenous-specific programming treats the same needs identified in the RNR framework, but approaches them differently from mainstream programming (Finseth, 2014); further exploration of the extent to which culturally sensitive services overlap with restorative justice frameworks and with the RNR model is warranted.

Action Item #5:
Testing the impact of treating systemic responsivity variables for Indigenous youth

Taxman and colleagues propose that mental health, life skills, socioeconomic status, housing, and transportation can be conceptualized as *systemic* responsivity factors that influence individuals' response to intervention; termed '(de)stabilizers,' these variables determine the extent to which a person can attend and engage in treatment, thereby indirectly affecting recidivism (Taxman, 2014; Taxman & Caudy, 2015). Our interview participants stressed the importance of addressing such variables to improve outcomes for youth; a sample of justice system personnel and service providers in Toronto, Ontario made the same point, highlighting housing, mental health, and transience as key targets of intervention for their Indigenous youth clients (Finseth, 2014). These consistent findings indicate the value of exploring the impact of treating systemic responsivity factors on recidivism among Indigenous youth; to date, no quantitative investigations of this association have been conducted.

Action Item #6:
Gathering the perspectives of Indigenous justice-involved youth

Finally, researchers need to engage with former and current probation clients themselves, to hear from their perspectives what facilitates and interferes with completing their diversion programming. Scholarship has stressed the importance of seeking out and heeding the voices of Indigenous individuals especially, given their continued marginalization (Cunneen, 2011). There are a handful of studies profiling the experiences of Indigenous youth and young adults with gang membership (Grekul & LaBoucane-Benson, 2009), community reintegration (Brown et al., 2005), custody (Latimer & Foss, 2004), and culturally-specific diversion services (Finseth, 2014), but, to our knowledge, no comprehensive discussion of the diversion process and outcomes. Justice-involved youth can provide valuable insight into how they are and can be more effectively engaged in services, especially in those domains (such as peer relations) where we have found that their needs are not being met. Although Indigenous youth were not included in the present study, the authors acknowledge the necessity of their involvement in any diversion program planning, delivery, and evaluation. Building relationships with and seeking the views of Indigenous youth will be a key element of the follow-up work to this research.

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Appendix A: Description of the YLS/CMI Assessment of Risks and Needs

Domain	Description of items	Sample items
Criminal history	Conviction, custody, and probation history	a. Three or more prior convictions b. Two or more failures to comply
Family	Relationship, supervision, and parenting difficulties	a. Inappropriate discipline b. Difficulty controlling behavior
Education/employment	Attendance, achievement, and behaviour issues	a. Disruptive classroom behaviour b. Truancy
Peer relations	Presence of antisocial and absence of prosocial relationships	a. Some delinquent friends b. No/few positive friends
Substance abuse	Degree of substance abuse problems, from least to most intrusive	a. Occasional drug use b. Chronic drug use
Leisure/recreation	Lack of interests and organized pursuits	a. Limited organized activities b. Could make better use of time
Personality/behaviour	Aggression, egotism, and poor impulse and emotion regulation	a. Inflated self-esteem b. Poor frustration tolerance
Attitudes/orientation	Callousness, defiance, and antisocial beliefs	a. Actively rejecting help b. Defies authority